

PROJECT REPORT

DARCOM 5-77

JANUARY 1978

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**STORAGE OF MEDICAL UNIT  
PREPOSITIONED  
WAR RESERVE MATERIEL**

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**U.S. ARMY MATERIEL  
DEVELOPMENT AND READINESS COMMAND  
PACKAGING, STORAGE,  
AND CONTAINERIZATION CENTER**

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## ABSTRACT

Army Medical Department (AMEDD) war reserve stocks are presently commingled with mission stocks throughout the world. In case of mobilization, these stocks must be selected, assembled into units, and transported to the needed area. To improve its readiness posture, AMEDD sought to preassemble stocks into units which could be prepositioned at designated locations. At the Surgeon General's request, PSCC studied a 200-bed combat support hospital which will be tested initially.

This report examines the packaging required to protect the 200-bed combat support Medical Unit Self-Contained Transportable (MUST) hospital prepositioned in a field environment for a period of five years.

Concluded is that packaging requirements must be developed for the individual components comprising the hospital to effect standardization and to control the item package size and unit pack quantity.

The report explores and provides the alternatives available to protect the hospital assemblages in the field environment during the storage period. It also includes the material costs and man-hours required for each alternative including inspection, servicing, and maintaining of the total package consideration.

US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND  
PACKAGING, STORAGE, AND CONTAINERIZATION CENTER

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STORAGE OF MEDICAL UNIT  
PREPOSITIONED WAR RESERVE MATERIEL

Project Report DARCOM 5-77

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## **1. Introduction.**

a. Army Medical Department (AMEDD) war reserve stocks are currently stored at storage activities located throughout the world. For the most part, the stocks are commingled with mission stocks at these storage locations. This practice permits maximum rotation of the stocks and reduces loss through obsolescence and deterioration.

b. However, many of the stocks are components of major medical assemblages which are deployed. In case of mobilization, these stocks must be selected, assembled into functional assemblages and transported to the needed area. Therefore, the readiness posture of the AMEDD is dependent directly upon the overall logistical system's ability to react during such critical times.

c. One method of enhancing the readiness posture of the AMEDD is to pre-assemble the stocks into the functional assemblages and preposition at selected locations. To store the assemblages by this method requires protection against deterioration during the storage period. To explore the feasibility of employing this method, AMEDD selected a 200 bed combat support hospital for study and the storage period was established at five years. This hospital consists of eleven different major medical functional units plus the power units and the dolly sets. The assemblages contain all components except the security items, those requiring special storage, and those with a shelf life of less than five years.

d. This project explores the alternatives available and the costs involved, to protect the prepositioned hospital. It also includes special handling and inspection considerations.

## **2. Discussion.**

### **a. Packaging policy.**

(1) Army packaging policy is established by AR 700-15 (Packaging of Materiel). This regulation provides three degrees of protection for materiel: Level A - Maximum Military protection; Level B - Minimum Military protection; and commercial packaging. The degree of protection needed for the prepositioned hospital assemblages are within the definition of Level A.

(2) The methods of preservation for materiel are established by MIL-P-116 (Preservation-Packaging, Methods of). This specification lists the various packaging materials used to provide protection to materiel and defines the type protection each method affords. To select the method needed for a specific item, the item must be analyzed to determine its physical characteristics. From this analysis, the methods or requirements can be selected, which will provide the needed protection for the item to meet each degree of protection. When this is accomplished, the packaging methods or requirements are recorded and published in an item specification, purchase description, packaging data sheets,

or other packaging documentation. The published documentation is then referenced in the Army Master Data File (AMDF). Packaging data sheets for Army items are reproduced on microfiche and distributed by the DARCOM Packaging, Storage, and Containerization Center (DARCOMPSCC).

**b. Packaging requirements.**

(1) Since packaging policy dictates that materiel be packaged levels A/A for long-term storage, the first step in accomplishing this project was to search for published packaging documentation. This search involved reviewing the AMDF for a packaging reference. Very few documents were found for the component medical items and none for the assembled units except the power units and the dollies. Therefore, it is necessary to develop the requirements for those components not already covered. Since the components of the assemblages are to be prepacked and stored in MUST shelters, and since space is limited, it is necessary to describe the packaging requirements in sufficient detail to control the unit pack size and quantity.

(2) For each set of equipment, it is necessary to provide a packing list to show the components and quantities packed with the set. Due to the complexity of these medical assemblages, it is considered advantageous to develop a loading plan for stowage of the components to assure standardization.

(3) Packaging requirements and a loading plan were developed for two assemblages included in this project: a pharmacy and a clinical laboratory. The system used and the requirements developed are included and explained in appendix A.

(4) The packaging requirements for the power plants are prescribed in MIL-P-52632 (Power Plant, Utility, MUST Hospital System). The level A requirements of the specification must be followed when preparing the power plants for long term outside storage.

(5) The packaging requirements for the dolly sets are prescribed by a packaging data sheet (PDS) published by US Army Tank-Automotive Materiel Readiness Command (TARCOM). The level A requirements prescribed by the PDS must be followed when preparing the dollies for long term outside storage.

**c. Additional requirements.**

(1) There are several items mounted in the shelters that cannot be provided individual protection. These items, such as stills, electrical controls, etc., are susceptible to corrosion and must therefore be protected. Also, the power packs need additional protection for outside storage. The only way to adequately protect these items is to provide a controlled environment for the

complete shelter. This can be accomplished by inclosing the shelter and power packs in a moisture resistant barrier (building or barrier for individual shelter) and then controlling the relative humidity within the barrier. The environment is controlled either by static or dynamic dehumidification: Static dehumidification uses desiccant to absorb and hold moisture trapped in or penetrating through the barrier; dynamic dehumidification employs electrically operated equipment to automatically control the relative humidity in the pack. There are several ways to provide the environment using various materials and techniques. All the materials and techniques afford the same basic protection and are adequate when properly maintained. All the techniques employ a humidity indicating sensor (card or hygrometer) to indicate when maintenance is required. Therefore, primary considerations are the costs to provide and maintain each of the systems.

(2) The various materials and techniques (alternatives) available for providing the needed protection are discussed below. In each of the alternatives, the material cost, man-hour (MH) requirements and maintenance considerations are given. The material costs and MH requirement will remain fairly constant but the cost per MH will vary considerably depending on the labor rate of the activity accomplishing the task. However, for comparison purposes, a labor rate of \$10 per MH is used for all alternatives. Also, all the alternatives for dynamic dehumidification require electric power to operate the dehumidifiers. The costs for installing electric service in the building type structures is taken from MEANS Building Construction Data (1977) and will vary only according to the construction rate in the area. The electric service for the units packed in individual covers requires only one receptacle for each dehumidifier. The cost of providing this electric service is estimated at \$1,000 per site but the cost would be more if there is no electric service in the immediate vicinity.

d. Alternatives for providing protection.

(1) Alternative 1, Method IIa in accordance with MIL-P-116 (Preservation-Packaging, Methods of).

(a) This alternative provides static dehumidification by enclosing each shelter in a moisture vaporproof barrier conforming to MIL-B-131 (Barrier Materials, Watervaporproof, Flexible, Heat-Sealable). The unit is then overpacked in a plywood sheathed, bolted type crate conforming to MIL-C-104 (Crates, Wood; Lumber and Plywood Sheathed, Nailed and Bolted). Inspection and servicing requirements are minimized by placing an inspection window in the barrier and an inspection door in the crate so the humidity can be read with little effort. The bolted crate allows the desiccant to be changed, when needed, by removing one end of the crate. The frequency of servicing will depend on the climatic conditions where the units are stored but it is estimated the desiccant will need changing three times in a high humidity area. Based on this estimate, the materials and maintenance costs of this alternative are as follows:

<u>1.</u> Expandable shelters (10 units)	<u>MH</u>	<u>Material costs</u>
Fabricate crate	200	\$ 2,860
Fabricate barrier	30	657
Apply to shelter	560	500
Maintain for 5 years	300	900
 <u>2.</u> Multipurpose shelters (19 units)		
Fabricate crate	342	4,890
Fabricate barrier	52	1,123
Apply to shelters	1045	950
Maintain for 5 years	570	1,710
 <u>3.</u> Power packs (9 units)		
Fabricate crate	135	1,930
Fabricate barrier	21	444
Apply to shelter	378	378
Maintain for 5 years	<u>270</u>	<u>675</u>
 Totals	3903	\$17,017
Labor cost @ \$10 per MH		<u>39,030</u>
Total cost for 5 years		\$56,047

(b) The advantages of this alternative are:

1. Pack is totally prepared with standard military materials. Consequently, no additional procurement action is required.

2. Pack can be prepared at any packaging activity and shipped to storage location without further work.

3. Pack can be stored at any location without special terrain preparation.

4. No special utilities are required at storage location.

(c) The disadvantages of this alternative are:

1. Complete pack must be prepared at the packaging activity.

2. More man-hours are required to service and maintain the packs than other alternatives.

3. Approximately 10 man-hours will be required to remove shelters from the pack in case of mobilization.

(2) Alternative 2, Individually enclose the shelter in a flexible barrier.

(a) In recent years, industry has developed systems of protection equipment in outside storage using flexible barrier materials. These systems are pre-fabricated, form fitting, reusable type covers that can be installed in the field with a few MHs. Proposals were obtained from four companies for systems using these materials. Each of the proposed systems can be used to provide either static or dynamic dehumidification with standard military desiccant or dehumidifiers. These systems have been tested for Army use and found to be effective. A resume of each of the proposals, cover, and installation costs, with the estimated costs to maintain for 5 years, is furnished below. The estimated maintenance costs are based on the ability of the material to resist the penetration of moisture. The dynamic dehumidification costs are based on using standard military dehumidifiers (CH equipment) and connecting one dehumidifier to three packs. The proposals are shown in Appendix B, sections 1 through 4.

1. Proposal 1, submitted by Enviropack, Inc., 110 Maryland Street, El Segundo, CA, 90245, is as follows:

a. Enviropack, Inc. proposes to complete enclosure of each shelter using a flexible barrier of either DRIGUARD 1127 or DRIGUARD 1227 depending upon the specified method of dehumidification. DRIGUARD 1127 and 1227 are both laminated polyvinyl chloride (PVC) films--DRIGUARD 1127 having a claimed water-vapor transmission rate (WVTR) of 0.10 grams/100 square inches/24 hours and DRIGUARD 1227 having a claimed WVTR of 0.02 grams/100 square inches/24 hours. Both types of PVC are the same, except DRIGUARD 1227 is coated on one side for oil, grease, and hydraulic fluid resistance.

b. Enclosures will be made in two parts with a bottom and top section joined by a circumferential extruded plastic vapor- and pressure-sealing zipper. Enclosures made from DRIGUARD 1127 material would be fitted with two sleeves to connect the ducting of a dynamic dehumidification unit; enclosures made from DRIGUARD 1227 material would be capable of being desiccated with bagged clay or silica gel desiccant.

Prices for each enclosure would be as follows:

<u>Description</u>	<u>Quantity</u>	<u>Unit Price</u>	
		<u>DRIGUARD 1127</u>	<u>DRIGUARD 1227</u>
Expandable shelter	10	\$575.00	\$800.00
Multipurpose shelter	19	525.00	730.00
Power pack	9	400.00	560.00

c. The estimated costs to protect the complete hospital for five years with either static or dynamic dehumidification are as follows:

(1) Static dehumidification.

(a) Expandable shelters (10 units)

	<u>MH</u>	<u>Material costs</u>
Covers	-	\$ 8,000
Install covers	60	300
Maintain for 5 years	133	1,140

(b) Multipurpose shelters (19 units)

Covers	-	13,870
Install covers	114	570
Maintain for 5 years	133	1,140

(c) Power packs (9 units)

Covers	-	5,040
Install covers	54	225
Maintain for 5 years	<u>63</u>	<u>450</u>

Totals	495	\$30,195
Labor cost at \$10 per MH		\$ 4,950
Total cost for 5 years		\$35,145

(2) Dynamic dehumidification.

(a) Expandable shelters (10 units)

	<u>MH</u>	<u>Material costs</u>
Covers	-	\$ 5,750
Install covers	60	-
Install CH equipment	40	2,775

(b) Multipurpose shelters (19 units)

Covers	-	9,975
Install covers	60	-
Install CH equipment	76	6,475

(c) Power packs (9 units)

Covers	-	3,600
Install covers	54	-
Install CH equipment	36	2,775
Install electric service at site	-	1,000
Operating costs (maint & power usage)	<u>390</u>	<u>5,200</u>

Totals	716	\$37,550
Labor costs at \$10 per MH		<u>\$ 7,160</u>
Total costs for 5 years		\$44,710

2. Proposal 2, submitted by, Global Chemical Systems, Inc., 2010 West 139 Street, Gardena, CA 90249 is as follows:

a. Global Chemical Systems, Inc. proposes complete enclosure of each shelter using a two-piece cover of Global 4051A laminated film. Global 4051A is a polyurethane elastomer laminated with a Saran core and has a claimed water vapor transmission rate (WVTR) of 0.08 grams/100 square inches/24 hours. The two sections will be joined by a U-39 Maxigrip Closure (zipper) manufactured from the same material. Latches will be provided across the closure to serve as alignment points, to secure the closure, and to assure the air tightness of the cover. Each enclosure will be provided with desiccant pouches for static dehumidification and inlet and outlet sleeves for dynamic dehumidification.

b. Unit prices for each enclosure are: \$953.23 for the expandable shelter, \$941.20 for the multipurpose shelter, and \$718.65 for the power pack.

c. The estimated costs to protect the complete hospital for five years by either static or dynamic dehumidification using this proposal are as follows:

(1) Static dehumidification.

<u>(a)</u> Expandable shelter (10 units)	<u>MH</u>	<u>Material costs</u>
Covers	-	\$ 9,533
Install covers	60	300
Maintain for 5 years	100	900
 (b) Multipurpose shelters (19 units)		
Covers	-	17,883
Install covers	114	570
Maintain for 5 years	190	1,710
 (c) Power packs (9 units)		
Covers	-	6,468
Install covers	54	270
Maintain for 5 years	90	810
 Totals	608	\$38,444
Labor costs at \$10 per MH		\$ 6,080
Total costs for 5 years		\$44,524

(2) Dynamic dehumidification.

(a) Expandable shelters (10 units)	<u>MH</u>	<u>Material costs</u>
Covers	-	\$ 9,533
Install covers	60	-
Install CH equipment	40	2,775
(b) Multipurpose shelters (19 units)		
Covers	-	17,833
Install covers	114	-
Install CH equipment	76	6,475
(c) Power packs (9 units)		
Covers	-	6,468
Install covers	54	-
Install CH equipment	36	2,775
Install electric service	-	1,000
Operating costs (maint & power usage)	<u>390</u>	<u>5,200</u>
Totals	770	\$52,109
Labor costs at \$10 per MH		<u>\$ 7,700</u>
Total costs for 5 years		\$59,809

3. Proposal 3, submitted by, Air Cruisers Company, A Division of the Garret Corp., PO Box 180, Belmar, NJ 07719, is as follows:

a. Air Cruisers Co. proposes a reusable, flexible, water vaporproof enclosure constructed in two separate sections which are joined by a polyvinyl (PVC) closure consisting of two interlocking PVC extrusions attached to the cover by dielectric welding. The barrier is a homogeneous, plasticized, extruded PVC film, reinforced with a polyester scrim and has a claim water vapor transmission rate (WVTR) of 0.08 grams/100 square inches/24 hours. The closure can be opened and closed at any point along its length and will circumvent the perimeter of the cover, forming an endless run to allow complete separation of the top and bottom halves of the cover. The control of humidity in the proposed cover system will be by a static system of bags of desiccant distributed between the outside surface of the shelter and the cover barrier material.

b. Monitoring of the relative humidity (RH) will be accomplished by the use of two types of indicators. The first type, humidity indicator paper, is located in the cover and can be viewed through transparent windows. The second, more accurate monitoring method employs a removable, portable, battery operated humidity measuring instrument. Use of two sensors is proposed for each cover, one located on the top of the shelter and one located to monitor the RH inside the shelter.



c. Air Cruisers Co. could not provide specific cost values without a full scale workup of all design considerations; however they did provide a suggested price range from \$1,600 to \$2,000 per container.

d. Although the company only proposed static dehumidification, the system can also be used with dynamic dehumidification equipment. The estimated costs to protect the complete hospital for five years by either static or dynamic dehumidification using this proposal are as follows:

(1) Static dehumidification.

	<u>MH</u>	<u>Material costs</u>
(a) Expandable shelters (10 units)		
Covers	-	\$20,000
Install covers	60	300
Maintain for 5 years	100	900
(b) Multipurpose shelters (19 units)		
Covers	-	36,100
Install covers	114	570
Maintain for 5 years	190	1,710
(c) Power packs (9 units)		
Covers	-	14,400
Install covers	54	270
Maintain for 5 years	<u>90</u>	<u>810</u>
Totals	608	\$75,060
Labor costs at \$10 per MH		<u>\$ 6,080</u>
Total costs for 5 years		\$81,140

(2) Dynamic dehumidification.

(a) Expandable shelters (19 units)		
Covers	-	\$20,000
Install covers	60	-
Install CH equipment	40	2,775
(b) Multipurpose shelters (19 units)		
Covers	-	36,100
Install covers	114	-
Install CH equipment	76	6,475

<u>(c) Power packs (9 units)</u>	<u>MH</u>	<u>Material costs</u>
Covers	-	\$14,400
Install covers	54	-
Install CH equipment	36	2,775
Install electric service	-	1,000
Operation cost (maint & power usage)	<u>390</u>	<u>5,200</u>
Totals	770	\$88,725
Labor cost at \$10 per MH		<u>\$ 7,700</u>
Total costs for 5 years		\$96,425

4. Proposal 4, submitted by , Brooks & Perkins, Inc. , Advanced Structurers Division, 12633 Inkster Road , Livonia, MI 48150, is as follows:

a. Brooks & Perkins, Inc. proposes three concepts designed to provide long-term (five years plus) storage and a controlled humidity environment. All three concepts utilize an Airflex flexible bag enclosure having a claimed water vapor transmission rate (WVTR) of 0.015 grams/100 square inches/ 24 hours. In the Airflex system a vacuum is drawn on the flexible bag , withdrawing most of the moist air and securing the shelter to the ground. Also proposed is a manual/automatic central pump and vacuum system which will evacuate air and maintain a constant vacuum in all 38 Airflex containers when stored in close proximity to each other. A humidity control system may be connected to the bag to maintain the required humidity level.

(1) Concept 1:

This proposed system consists of a sealing frame around the base , a flexible base sheet, and a flexible bag enclosure. The sealing frame is constructed from split tubular members which may be assembled on site. The sealing frame is placed on the ground , the base sheet is installed into the sealing frame groove , and the formed rim section is sealed by the inflatable tube section of the enclosure bag.

(2) Concept 2:

This proposed system is a semipermanent installation and is similar to Concept 1, except the sealing channel is secured in an epoxy filled trough embedded in a concrete skirt which forms a rest pad for the shelter.

(3) Concept 3:

This proposed system is similar to Concept 1, except the sealing channel is attached to a 0.25 inch thick steel base plate.

b. Cost for each Airflex system, based on total quantity of thirty-eight (38) containers is:

Concept 1:	\$2,500.00/each
Concept 2:	\$3,530.98/each
Concept 3:	\$3,328.95/each
Pump and vacuum system:	\$1,500.00 (One required)

c. The estimated costs to protect the complete hospital for five years by either static or dynamic dehumidification using concept 1 of this proposal are as follows. Concepts 2 and 3 are not evaluated because these involve special preparation or construction at the storage site.

(1) Static dehumidification.

All units	<u>MH</u>	<u>Material costs</u>
Covers	-	\$95,000
Install covers	228	1,140
Maintain for 5 years	<u>152</u>	<u>1,140</u>
Totals	380	\$97,280
Labor costs at \$10 per MH		<u>\$ 3,800</u>
Total costs for 5 years		\$101,080

(2) Dynamic dehumidification.

All units	<u>MH</u>	<u>Material costs</u>
Covers		\$95,000
Install covers	228	-
Install CH equipment	152	12,025
Install electric service	-	1,000
Operating cost (maint & power usage)	<u>390</u>	<u>5,200</u>
Totals	770	\$113,225
Labor costs at \$10 per MH		<u>7,700</u>
Total costs for 5 years		\$120,925

(b) The advantages of this alternative are:

1. Covers can be installed at storage site without special tools or skills.
2. Covers are reusable and can be removed and reinstalled as needed.
3. Items can be removed from covers within one hour per unit.
4. Desiccant can be changed in the static packs in approximately three MH per unit.

(c) The disadvantages of this alternative are:

1. Dynamic dehumidified packs require the storage site be provided with electric power.
2. Procurement action must be initiated to buy the covers.

(d) Two proposals of this alternative are the most economical methods of protecting this hospital. It is suspected the other proposals can be procured cheaper if more details of the needs were provided and the companies are bidding competitively. Therefore, a procurement description was prepared to define the minimum requirements needed. Each of the proposals can meet the procurement description, and it may allow the companies to eliminate some of the requirements included in their proposals. The procurement description is included as appendix C.

(3) Alternative 3, Butler type building.

(a) This alternative involves construction of a prefabricated metal building that will hold the complete hospital. The building itself provides dynamic dehumidification when equipped with electric operated dehumidifiers. The building is shipped to and assembled at the storage site. Site preparation and floor construction are required prior to erection of the building. The floor will cost approximately \$2.83 per square foot. After erection, installation, electric service, heating and CH equipment are installed. To house the complete hospital, a building with at least 9,500 square feet of floor space is required. The costs of a standard building of this capacity are shown below. These costs were obtained from the 1977 edition of MEANS Building Construction Cost Data for construction in the United States and, therefore, will vary from site to site.

<u>Building, 10,578 square feet</u>	<u>Costs</u>
Building, including erection	\$ 34,700
Floor, 6" reinforced concrete (including site prep)	29,887
Insulation, foam	7,400
Electric service	14,809
Heating	11,635
CH equipment	15,000
Operating cost (maint & power usage) (\$996 per yr)	<u>4,980</u>
Total cost for 5 years	\$118,411

(b) The advantages of this alternative are:

1. Less maintenance required.
2. Equipment is accessible without removing from pack.
3. Some space available for storing other items.
4. Shelter can be removed from storage without removing packaging materials.

(c) The disadvantages of this alternative are:

1. It is the most expensive of the listed alternatives.
2. Long construction lead time.
3. Semipermanent structure, is expensive to relocate.
4. Procurement action required to buy buildings.

(4) Alternative 4, Reinforced plastic cover over metal frame shelter.

(a) This alternative involves constructing a metal frame and covering the frame with a reinforced flexible barrier similar to those used in Alternative 2. These shelters can be fabricated in various sizes but a standard size is 40 feet long by 20 feet wide with a 12 feet radius height. These shelters also require a floor to be constructed on site at a cost of approximately \$2.00 per square foot so they can then be equipped to provide CH storage. It will take 12 shelters of this size to accommodate the complete hospital. The five year costs for this alternative is estimated as follows:

	<u>MH</u>	<u>Material cost</u>
Covers with frames	-	\$ 60,000
Erection	600	-
Floor, bituminous concrete (material & labor)	-	19,200
Electric service (material & labor)	-	1,000
Install CH equipment	120	10,464
Operating cost (maint & power usage)	-	5,640
<b>Totals</b>	<b>720</b>	<b>\$ 96,304</b>
Labor costs at @ \$10 per MH		<u>7,200</u>
Total costs for 5 years		<b>\$103,504</b>

(b) The advantages of this alternative are:

1. Equipment is accessible without removing from pack.
2. Some space available for storing other items.
3. Equipment can be removed from storage without removing packaging materials.

(c) The disadvantages of this alternative are:

1. Requires procurement action to buy covers and frames.
2. Requires site preparation and construction at storage location.
3. Semipermanent structure, expensive to relocate.

e. Inspection and servicing considerations.

(1) For all the alternatives shown, the inspection considerations involve periodic checks to assure the system is providing the needed protection. When needed, the system must be repaired or serviced to restore its ability to function. The considerations for the static and the dynamic dehumidification systems are discussed below. The considerations are included in the estimated costs for each alternative.

(a) Static dehumidification.

1. Inspection involves reading a humidity sensor periodically. The sensor reflects the relative humidity within the system. Normal frequencies of inspection depend on where the units are stored; every six months if stored outside or every twelve months if stored in a general purpose warehouse. The frequency is less often when stored in a more favorable environment.

2. Servicing involves changing the desiccant when the sensor indicates the system is no longer controlling the humidity. Servicing also includes checking the system for damages and repairing the system, if needed.

(b) Dynamic dehumidification.

1. Inspection involves checking the dehumidification equipment to assure it is operating. Each system contains a humidity sensor and each humidifier is equipped with an hour meter to register its hours of operation. Normal operation is an average of six to eight hours during each 24-hour period. The humidity sensor and the hour reading should be made every week. When the sensor indicates relative humidity to be over 50 percent or the hour meter indicates that the dehumidifier is operating over an average of 16-18 hours per day servicing is required.

2. Servicing involves checking the system for damages and checking the dehumidifier for proper functions. Repairs are required as appropriate.

3. Conclusions.

a. Many of the components contained in the 200 bed combat support MUST hospital are not covered by adequate published packaging requirements. Adequate requirements were developed for two of the major assemblages comprising the hospital.

b. The major assemblages of the MUST hospital must be protected during long-term storage by inclosing in a controlled humidity environment. This can be accomplished by enclosing the assemblages in a barrier and controlling the environment by either static or dynamic dehumidification.

c. Four alternatives are included which will provide the needed protection. One alternative will provide only static dehumidification, two provide only dynamic dehumidification, one contains four proposals and all can be used for either static or dynamic dehumidification. Material, costs, man-hour requirements and inspection considerations are given for each of the alternatives.

d. The most economical method of providing the needed protection is by using alternative 2. The protection afforded in each of the alternatives is essentially the same. Alternative 1 was used for the initial test shipment to Europe of six pharmacies and two clinical laboratory units. Method IIa was chosen for the units so that they could be packed and shipped within the time limits proposed by AMEDD.

e. The objectives of this project, to study and provide recommendations and alternatives for protecting medical materiel prepositioned in a field environment for a period of five years, has been accomplished.

#### 4. Recommendations.

a. That level A packaging requirements be developed for each component of the 200 bed combat support MUST hospital that is intended for storage in a prepositioned status.

b. That a reference to published packaging documentation be input to the Army Master Data File (AMDF). The packaging data sheets contained in appendix A, except those for mounted items, can be published in the Packaging Data Master File (PDMF) and then referenced in the AMDF.

c. That, in protecting the shelter itself, maximum consideration be given to alternative 2--the use of any of a variety of flexible barriers developed by industry. If alternative 2 is selected, the purchase description provided in appendix C could be used for procurement purposes.



## Appendix A

### Section 1.

#### PACKAGING REQUIREMENTS FOR PHARMACY AND CLINICAL LABORATORY

##### 1. Packaging requirements.

a. The packaging requirements are prescribed on packaging data sheets (PDS). The PDS used is AMC Form 1029 which is widely used by DARCOM commands for prescribing packaging requirements. The sheets list the necessary method to protect the item levels A, B, and commercial packaging and also lists the materials and techniques necessary for application. The PDS are included in section 3 of this appendix.

b. For the most part the PDS are describing methods of protection rather than being engineered to only one item. Therefore, each PDS is given a control number for reference. Using this reference number, the PDS can be used to prescribe the packaging for all items needing the same method of protection using the same materials. The only differences are the sizes of the materials required. Normally, the packaging materials, except containers, are supplied in bulk so the sizes needed can be fabricated by the packager.

c. Since the PDS can be used to prescribe the packaging for several items, three packaging reference lists were developed; one for the pharmacy; one for the laboratory; and one for the shelter component since the shelter components are common to all expandable shelters. These lists contain the national stock number, the item name, the packaging reference and the container size for the item. The packaging reference is referring to the control number given to the PDS. In the container size column, the container size required for the item is shown. Using this system, the packager checks the packaging reference list for the applicable PDS. He/she then applies the packaging prescribed by the PDS using the container size specified in the fourth column of the packaging reference list. The packaging reference list is included in section 2 of this appendix.

##### 2. Packing list and load plans.

a. Because of the complexity of these assemblages, it was considered advantageous to identify the location of all components stowed in the shelters. This was accomplished by numbering each cabinet and each package not stowed in a cabinet. One column of the build materials list (packing list)

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Section 1.

used by the medical department was used to reference the cabinet or package number. This column is marked "location." Under the column, the cabinet or package number is referenced in which the component is stowed.

b. To supplement the packing list, a load plan was prepared. The plan shows the location of every cabinet or package stowed in the shelter. The packing lists and load plans for the pharmacy and laboratory units are included as section 3 to this appendix.

**Appendix A**

**Section 2.**

**PACKAGING REFERENCE LIST**

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Section 2.

Packaging Reference List for Pharmacy

NSN 6645-00-999-6451

NSN	ITEM	PKG REF	CONTAINER SIZE (Inches)
4110-00-113-8334	Refrigerator	1A8-03	27 1/2 x 26 x 38
6530-00-027-5335	Table, SUR	III-24	
6530-00-115-2991	Stool	III-11	17 1/2 x 17 1/4 x 25 1/4
6530-00-299-8545	Stool	III-03	19 x 14 1/2 x 9
6530-00-421-4768	Cabinet, PH	III-25	
6530-00-421-4769	Cabinet, PH	III-25	
6530-00-421-7831	Cabinet, PH	III-25	
6545-00-027-5013	Sink	III-24	
6640-00-C70-0001	Distilling Apparatus	III-24	
6640-00-165-6840	Stand, Flask	III-15	21 x 14 x 1 3/4
6640-00-406-3646	Rack, Flask	III-03	14 x 13 1/8 x 10
6640-00-406-3647	Rack, C rboy	III-05	
6670-00-119-4623	Balance Torsion	1A15-02	12 x 6 1/4 x 8 1/2
7125-00-707-3041	Shelf, Chrome	III-12	36 x 18 1/4 x 5 3/4
6505-00-050-4567	Psyllium Hydro	III-21	10 1/2 x 2 3/4 x 7
6505-00-106-0875	Ammonia	IC2-03	7 x 4 x 2 3/8
6505-00-133-5800	Petrolatum	IC2-03	5 5/8 x 4 5/8 x 4 1/8
6505-00-133-8025	Petrolatum	III-25	13 x 4 3/8 x 3 5/8
6505-00-136-7000	Potassium Iodide	III-29	3 3/8 x 2 3/8 x 5 1/2
6505-00-138-4150	Propylene Glycol	III-29	3 x 3 x 6 3/4
6505-00-147-0000	Talc USP	III-01	4 1/4 x 4 1/4 x 5
6505-00-153-8443	Lactose USP	III-29	3 3/4 x 3 3/4 x 6 3/4
6505-00-656-1468	Senna Pod	III-21	8 1/8 x 1 5/8 x 2 7/8
6505-00-890-1657	KAO In-Pect Mix	III-29	5 1/4 x 3 x 4 3/4
6505-01-008-3054	Undecylenic pwd	IC2-04	9 1/2 x 8 1/8 x 2 1/8
6510-00-201-4000	Cotton Purified	1A13-01	12 x 4 3/8 x 4 3/8
6510-00-202-4000	Gauze	1A13-01	
6530-00-042-8421	Bottle	III-35	
6530-00-042-8441	Bottle	III-35	
6530-00-042-8443	Bottle	III-35	
6530-00-042-8472	Bottle	III-35	
6530-00-111-6354	Bottle	III-34	
6530-00-111-6356	Bottle	III-34	
6530-00-113-3724	Cap	III-16	
6530-00-404-7700	Bottle	III-20	
6530-00-406-0240	Bottle	III-35	
6530-00-430-5400	Jar Oint	III-20	

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Section 2.

NSN	ITEM	PKG REF	CONTAINER SIZE
6530-00-772-5935	Brush	ICI-02	
6530-00-935-4136	Bottle	III-20	
6640-00-010-8363	Bottle	III-10	
6640-00-063-7872	Funnel	III-17	7 7/8 x 7 7/8 x 9 1/2
6640-00-127-0129	Rod, Stirring	III-27	1/2 x 1/2 x 10 1/4
6640-00-350-6343	Funnel	III-17	3 1/8 x 3 1/8 x 5 1/4
6640-00-418-0000	Clamp, Shutoff	ICI-04	
6640-00-418-6582	Mortar and Pestle	III-19	7 x 7 1/2 x 4 1/4
6640-00-419-7000	Cylinder	III-18	5 3/4 x 2 x 2
6640-00-436-0000	Paper	IC2-02	8 x 8 x 3/4
6640-00-439-7350	Spatula, 3 inch	ICI-01	
6640-00-439-7367	Spatula, 4 inch	ICI-01	
6640-00-440-1200	Stand, Lab	IC2-01	24 x 6 x 3/4
6640-00-440-1315	Ring Support	ICI-01	
6640-00-846-1355	Breaker	III-18	
6640-00-889-7083	Graduate	III-17	2 3/4 x 2 1/2 x 5 7/8
6640-00-889-7085	Graduate	III-17	4 1/2 x 4 x 9 5/8
6640-00-889-7088	Cylinder	III-17	2 1/8 x 2 1/8 x 7 5/8
6640-00-926-1305	Mortar-Pestle	III-19	6 x 4 x 3 3/4
6640-00-942-4393	Breaker	III-18	3 1/4 x 3 1/4 x 3 5/8
6640-00-982-1289	Breaker	III-17	5 3/4 x 5 1/8 x 6
6640-00-982-1291	Breaker	III-17	3 1/2 x 3 3/8 x 3 3/4
6670-00-401-8850	Weight Balance	IC3-02	
6810-00-234-8370	Sodium Chloride	III-29	6 1/4 x 2 x 3 5/8
7240-00-023-8570	Pail Utility	III-09	11 3/4 x 11 3/4 x 15
5110-00-161-6902	Shears	IC2-01	
5120-00-540-7155	Punch, 2 hole	IC2-02	6 x 4 7/8 x 2 1/2
6230-00-498-9408	Lantern	IC2-01	7 x 5 1/4 x 7
6240-00-155-8681	Lamp, Incandescent	IC2-06	1 x 1 x 1 1/2
6640-00-171-5198	Spatula, 4 inch	ICI-01	
6640-00-264-8285	Spatula, 12 inch	ICI-01	
6640-00-883-5488	Paper Filter	IC2-02	5 1/8 x 5 1/8 x 1
7330-00-272-2591	Opener, Can	ICI-02	
7330-00-680-2636	Scraper, 3 inch	ICI-01	
7330-00-849-5194	Spatula	ICI-01	
7340-00-223-7769	Knife, 7 inch	IC2-02	7 3/8 x 7/8 x 5/8
7510-00-161-4277	Fasteners	IC2-02	2 3/8 x 2 3/8 x 1 1/8
7510-00-161-4292	Clip, Paper	IC2-02	4 3/4 x 3 7/8 x 3
7510-00-161-6217	Ruler, 18 inch	IC2-02	18 x 7/8 x 1/4

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Section 2.

NSN	ITEM	PKG REF	CONTAINER SIZE
7510-00-240-1526	Pencil, Black	IC2-02	6 3/4 x 2 1/8 x 3/4
7510-00-272-9662	Staple, Paper	IC2-02	4 1/4 x 1 3/4 x 1 1/4
7510-00-281-5234	Pencil, No. 2	IC2-02	7 1/2 x 1 3/4 x 5/8
7510-00-526-1741	Ink Pad	IC2-02	6 1/2 x 3 1/2 x 5/8
7510-00-551-3214	Ink Stamp	III-29	2 1/2 x 1 3/8 x 1 3/8
7510-00-551-9818	Tape, Press Sen	IC2-02	3 1/4 x 2 1/8 x 7/8
7510-00-926-4826	Tape, Masking	IC2-02	4 7/8 x 4 7/8 x 1 1/4
7520-00-162-6156	Stand, Calendar Pad	III-17	7 3/4 x 6 5/8 x 3/4
7520-00-162-7109	Stamp, Number Mach	IC2-02	
7520-00-240-2408	Dispenser, Tape	IC2-02	4 x 3 x 1
7520-00-281-5895	Stapler, Paper	IC2-02	7 1/4 x 1 3/4 x 1 3/4
7520-00-286-5792	Rubber Stamp	IC2-02	3 3/8 x 1 5/8 x 1
7520-00-558-1501	Marker, Felt Tip	IC2-02	5 x 2 x 5/8
7530-00-285-3083	Pad, Writing	ICI-02	
7530-00-286-6210	Book, Memo	ICI-02	
7920-00-292-4368	Brush, Bottle	IC2-02	16 1/2 x 2 1/4 x 2 1/4
7920-00-409-5500	Brush, Test Tube	IC2-02	9 x 3/4 x 1/2
7920-00-633-9929	Sponge	ICI-05	
7920-00-721-8884	Kimwipes	IC2-09	15 1/2 x 12 1/2 x 27 1/2
7930-00-558-1111	Detergent	IC2-09	5 1/4 x 5 1/4 x 10 3/8
8540-00-262-7178	Towel, Paper	IC2-09	16 x 13 x 24

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Section 2.

PACKAGING REFERENCE LIST  
CLINICAL LABORATORY  
NSN 6545-00-999-6448

NSN	Items	Pkg Ref	Container Size (Inches)
6645-00-250-4680	Stop Watch	IA8-02	
6650-00-526-7785	Microscope	Iib-01	23 X 14 X 15 1/2 23 3/4 X 14 3/4 X 16 1/4 27 1/2 X 26 X 38 12 X 9 X 9 8 1/2 X 7 1/2 X 19
4110-00-113-8334	Refrigerator	IA8-03	
4310-00-935-1557	Vacuum Pump	IA15-07	
4610-00-782-5867	Demineralizer	IA15-05	
6530-00-019-9079	Cabinet	III-25	
6530-00-019-9257	Cabinet	III-25	
6530-00-027-5261	Sterilizer	III-26	
6530-00-113-1491	Tray	III-09	16 1/4 X 15 X 8 3/8
6530-00-113-1492	Tray	III-09	16 1/4 X 15 X 10
6530-00-115-2991	Stool	III-11	17 1/4 X 17 1/4 X 25 1/4
6530-00-935-9838	Cabinet	III-25	
6530-00-935-9851	Table	III-15	36 1/4 X 34 1/2 X 1 3/4
6545-00-019-9330	Sink	III-24	
6545-00-027-5009	Sink	III-25	
6630-00-087-1838	Comparator	IC3-01	
6630-00-105-8648	Meter Hydro	Iib-01	16 1/2 X 15 1/2 X 13 1/2 17 1/4 X 16 1/4 X 14 1/4 13 X 12 X 9 1/4 15 X 10 X 12 9 1/2 X 9 1/2 X 2 3/4 7 1/2 X 5 X 2 3/4 11 3/4 X 4 3/4 X 7 1/2 7 1/2 X 4 X 2 12 3/4 X 3 1/2 X 2 1/4 7 1/2 X 6 1/2 X 5 1/8 6 X 8 1/2 X 5 1/4 18 X 9 X 10 3/4 10 1/2 X 8 1/2 X 11 1/4 7 X 3 1/2 X 6 1/4 8 3/4 X 8 3/4 X 8 1/2
6630-00-143-6763	Blood, Gas Anal	Iie-02	
6630-00-418-8010	Counter	IC2-01	
6640-00-113-8336	Stirrer	IA15-09	
6640-00-135-9644	Shaking Mach	Iie-01	
6640-00-145-1158	Water Bath	IA15-16	
6640-00-145-1180	Centrifuge	IA15-13	
6640-00-299-8693	Shaking Mach	Iie-01	
6640-00-299-9835	Centrifuge	IA15-14	
6640-00-435-7220	Oven	III-26	
6640-00-930-9034	Centrifuge	IA15-12	13 1/2 X 13 1/2 X 12 1/4
6650-00-144-4555	Spectro phometer	Iib-02	16 1/8 X 15 X 8 1/4 16 5/8 X 15 1/2 X 8 3/4 11 X 6 X 7 1/2
6650-00-428-7050	Light Micro	IA15-10	
6650-00-933-3218	Refractometer	IA8-02	
6650-01-026-8333	Photometer	Iib-03	22 1/4 X 21 1/4 X 20 1/2 23 X 22 X 21 1/2

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NSN	Items	Pkg Ref	Container Size (Inches)
6670-00-119-4623	Balance Tor	IA15-02	12 X 6 1/4 X 8 1/2
6670-00-401-8800	Weight Bal	IC3-02	
6505-00-110-6640	Boric Acid	IC2-02	3 3/4 X 2 5/8 X 5
6505-00-136-7000	Potassium	III-29	3 3/8 X 2 3/8 X 5 1/2
6505-00-146-4874	Sulfosalic Acid	III-29	2 7/8 X 2 X 4 3/4
6505-00-153-8708	Sodium Chlor	III-29	3 X 2 X 4 7/8
6510-00-201-4000	Cotton	IA13-01	12 X 4 3/8 X 4 3/8
6510-00-782-2700	Sponge	IC1-03	
6515-00-149-1405	Thermometer	III-27	1 X 1/2 X 4 5/8
6515-00-303-8100	Appli	III-17	6 1/8 X 2 3/4 X 2 1/8
6515-00-311-9350	Btl Infu Kelly	III-18	3 1/2 X 3 1/2 X 10 1/2
6515-00-334-3800	Forceps	IA8-01	
6515-00-344-7800	Handle Surg	IA8-01	
6515-00-349-2400	Needle	IA15-17	3 1/4 X 2 7/8 X 3/8
6515-00-349-3400	Needle	IA15-17	3 1/8 X 1 3/4 X 3/8
6515-00-349-5400	Needle	IA15-17	3 1/4 X 1 3/8 X 3/8
6515-00-363-8840	Scissor	IA8-01	
6515-00-371-3100	Sphygmomanome	IA15-09	7 1/2 X 4 1/4 X 3
6515-00-374-2220	Stethoscope	IC2-07	8 X 4 1/4 X 1 1/8
6515-00-404-2360	Tube Hypo	III-32	2 1/4 X 1 5/8 X 3 1/2
6515-00-431-2890	Lancet	IA13-01	3 1/2 X 3 X 1
6515-00-584-2925	Holder Bld	III-09	6 3/4 X 2 5/8 X 2 1/4
6515-00-584-2926	Balance Bld	IC2-01	
6515-00-660-0010	Blade Knife	IA13-01	
6515-00-754-0412	Syr Hyp Dis	IA13-01	15 1/2 X 8 1/4 X 7 1/4
6515-00-754-2836	Needle Hypo	IA13-01	8 X 3 X 2
6515-00-890-1707	Barrel Luer	III-32	11 1/2 X 7 1/4 X 1 3/4
6515-00-890-1798	Barrel Luer	III-32	11 1/2 X 7 1/4 X 2 1/4
6515-00-890-1802	Plunge Luer	III-32	7 X 4 X 7/8
6515-00-890-1803	Plunge Luer	III-32	6 7/8 X 5 1/4 X 1 1/8
6515-00-926-9201	Connect Sur	III-17	6 3/8 X 3 1/2 X 3 1/4
6515-00-985-7218	Barrel Luer	III-32	8 3/8 X 4 1/2 X 5/8
6515-00-985-7219	Plunger Luer	III-32	4 1/2 X 4 X 1/2
6515-01-003-2369	Needle Hypo	IA13-01	19 1/2 X 8 3/4 X 5 3/4
6520-00-516-6150	Clay Modeling	III-29	3 1/2 X 3 1/2 X 3 1/2
6530-00-080-0040	Bottle Uri	III-34	24 1/2 X 16 1/2 X 25
6530-00-080-0049	Cap, Snap on	III-03	10 3/8 X 9 1/2 X 10
6530-00-111-6351	Cap Safcap	III-20	16 1/2 X 12 X 4 3/4
6530-00-837-7472	Cup	IA13-02	13 1/2 X 13 1/2 X 13 1/2
6630-00-165-5734	Disk Color Std	IC2-02	4 1/2 X 3 1/2 X 3/4
6630-00-299-9832	Urinometer	III-27	5 3/4 X 1 7/8 X 1 7/8
6630-00-299-9834	View Box	IC2-01	17 X 5 3/4 X 8 1/2
6630-00-299-9837	Tube Capillary	III-17	3 5/8 X 1 1/4 X 1 1/4



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NSN	Item	Pkg Ref	Container Size (Inches)
6630-00-299-9838	Bulb Capillary	III-17	3 1/2 X 2 1/4 X 1 1/2
6630-00-404-2220	Holder	III-17	5 X 2 3/8 X 1 7/8
6630-00-427-6850	Chamber	IC2-08	3 3/8 X 1 5/8 X 5/8
6630-00-442-8000	Test Color CH	IA15-17	2 7/8 X 2 1/8 X 1
6630-00-442-9005	Test Pap Color	IA15-17	2 7/8 X 2 1/8 X 1
6630-00-585-1378	Reader	IC2-01	10 X 10 X 4 1/4
6630-00-585-1522	Tube 90 MM	III-17	5 1/4 X 5/8 X 5/8
6630-00-618-0072	Tube 1.55 MM	III-17	3 5/8 X 1 3/8 X 1 3/8
6630-00-618-0073	Tube	III-17	3 3/4 X 1 1/8 X 1 1/8
6640-00-010-8357	Breaker	III-17	8 3/4 X 1 3/8 X 1 3/8
6640-00-010-8358	Rack Test Tube	IC2-01	7 3/4 X 5 1/2 X 5 1/4
6640-00-010-8360	Flask 50 ML	III-17	3 1/2 X 2 1/4 X 2 1/4
6640-00-010-8361	Flask 250 ML	III-17	3 1/8 X 3 1/8 X 5 1/4
6640-00-010-8362	Flask 1000 ML	III-17	5 1/4 X 5 1/4 X 8 3/8
6640-00-010-8363	Bottle	III-10	
6640-00-052-1281	Pipet 1 ML	III-27	13 X 2 X 1 1/2
6640-00-052-1282	Pipet 2 ML	III-27	13 X 2 X 1 1/2
6640-00-054-1879	Pipet 0.2 ML	III-27	15 X 2 3/4 X 1 3/4
6640-00-054-1880	Pipet 1 ML	III-27	15 X 3 X 2 1/8
6640-00-059-7164	Pipet 10 ML	III-27	15 X 3 X 2
6640-00-059-7165	Pipet 5 ML	III-27	15 X 2 1/2 X 7/8
6640-00-127-0129	Rod Stirring	III-27	1/2 X 1/2 X 10 1/4
6640-00-127-0130	Rod Stirring	III-27	1/2 X 1/2 X 6 1/4
6640-00-127-0134	Pipet 12S	III-27	8 X 1 3/4 X 2 1/4
6640-00-127-0135	Pipet 12S	III-27	7 1/2 X 1 3/4 X 1 3/8
6640-00-127-0136	Pipet 12S	III-27	7 1/2 X 1 3/4 X 1 3/8
6640-00-144-4549	Cuvette	III-32	6 1/4 X 2 5/8 X 3 3/4
6640-00-145-1179	Block	III-03	11 3/4 X 10 1/2 X 6
6640-00-165-5726	Rack	III-17	10 3/8 X 4 1/2 X 3 3/8
6640-00-247-3821	Desiccator	III-03	12 X 12 X 10
6640-00-247-3831	Plate	III-03	9 1/4 X 9 1/4 X 5/8
6640-00-299-8479	Basket	III-03	9 1/8 X 9 1/8 X 9 1/8
6640-00-299-8490	Rack	III-17	10 1/4 X 4 3/8 X 2 5/8
6640-00-299-8493	Wash Bottle	III-16	
6640-00-299-8691	Holder	III-19	7 1/2 X 6 X 3 1/2
6640-00-299-8692	Disk	IC2-02	5 1/2 X 2 3/8 X 2 3/8
6640-00-299-9807	Immersion Oil	III-29	3 X 1 3/4 X 3 3/4
6640-00-299-9833	Calculator	IC1-02	
6640-00-402-9250	Pan	III-31	10 1/2 X 6 1/4 X 4 3/8
6640-00-408-2200	Bottle	III-21	2 1/2 X 1 3/4 X 2 1/2
6640-00-408-9150	Bottle	III-20	9 1/4 X 7 X 3
6640-00-414-2000	Tube CB	III-32	5 X 3 1/4 X 2 3/8
6640-00-414-3000	Tube CB	III-32	4 X 1 1/2 X 5
6640-00-417-6000	Clamp	IC1-01	

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Section 2.

NSN	Item	Pkg Ref	Container Size (Inches)
6640-00-418-0000	Clamp	IC1-04	
6640-00-424-8000	Flask	III-18	4 1/2 X 4 1/2 X 7 3/4
6640-00-425-4000	Flask	III-18	5 1/2 X 1 1/2 X 1 1/2
6640-00-425-5000	Flask	III-18	6 3/4 X 2 X 2
6640-00-425-6000	Flask	III-18	8 3/4 X 2 1/2 X 2 1/2
6640-00-425-7000	Flask	III-18	9 1/4 X 3 1/8 X 3 1/8
6640-00-425-8000	Flask	III-18	11 1/4 X 3 5/8 X 3 5/8
6640-00-425-9000	Flask	III-18	15 1/2 X 5 X 5
6640-00-426-0300	Forceps	IA8-01	
6640-00-427-6875	Cover Glass	III-28	2 1/4 X 2 X 5/8
6640-00-428-5000	Holder	IC1-03	
6640-00-428-6000	Holder	IC1-03	
6640-00-430-1000	Jar	III-18	5 X 3 X 2 3/4
6640-00-435-7650	Paper Filter	IC2-02	10 1/4 X 10 1/4 X 3/4
6640-00-435-8000	Paper Filter	IC2-02	3 5/8 X 3 5/8 X 3/4
6640-00-436-1000	Paper 25D	IC2-02	10 X 10 X 3/4
6640-00-435-3000	Paper 110	IC2-02	4 1/2 X 4 1/2 X 1
6640-00-436-5000	Paper Lens	IC1-03	
6640-00-436-5300	Pipet Blood	III-27	1 1/2 X 1 1/8 X 10 1/4
6640-00-437-0050	Pipet Ostwald	III-27	1 5/8 X 1 1/4 X 10
6640-00-437-7960	Pipet 1 ML	III-27	1 3/4 X 1 3/8 X 14
6640-00-437-8000	Pipet 5 ML	III-27	2 X 1 1/2 X 18
6640-00-437-9000	Pipet 10 ML	III-27	1 7/8 X 1 1/4 X 18
6640-00-439-0400	Rule 6-in	IC1-02	
6640-00-439-7350	Spatula 3-in	IC1-01	Shipped Short
6640-00-439-8440	Cuvette	III-20	3 X 2 1/4 X 6
6640-00-440-1200	Stand Lab	IC2-01	24 X 6 X 3/4
6640-00-441-2000	Stopper NO 00	III-16	
6640-00-441-3000	Stopper No 0	III-16	
6640-00-441-4000	Stopper No 1	III-16	
6640-00-441-5000	Stopper NO 2	III-16	
6640-00-443-3450	Test Tube	III-20	2 X 1 1/2 X 3
6640-00-443-3750	Test Tube	III-32	4 X 2 1/4 X 1 3/4
6640-00-443-3775	Test Tube	III-27	5 1/4 X 3 1/4 X 2 1/2
6640-00-443-4950	Test Tube	III-20	2 7/8 X 2 X 6 1/8
6640-00-444-8000	Tongs	IA8-01	
6640-00-445-1000	Tripod Iron	IC1-01	
6640-00-445-9250	Glass Tubing	III-30	3 X 3 X 31
6640-00-447-3625	Basket	III-03	19 3/4 X 6 1/2 X 6
6640-00-542-0500	Mortar & Pestle	III-19	4 3/4 X 2 3/4 X 1 7/8
6640-00-604-1102	Test Tube	III-20	18 3/4 X 7 1/2 X 5
6640-00-618-0066	Cover Glass	III-28	3 X 1 5/8 X 1 1/8
6640-00-684-1345	Box Micro	IC2-02	6 X 3 1/4 X 1 1/8
6640-00-719-7216	Pipet	III-27	3 X 1 1/2 X 14

Appendix A--Continued  
Section 2.

NSN	Item	Pkg Ref	Container Size (Inches)
6640-00-725-7843	Connector	III-17	6 1/4 X 2 1/2 X 2 1/2
6640-00-782-6015	Basket	III-03	19 3/8 X 5 X 5
6640-00-889-1594	Box Ship	III-33	18 X 11 1/2 X 10 1/8
6640-00-889-1712	Filler	IC2-02	
6640-00-889-7022	Funnel	III-17	4 1/4 X 2 1/4 X 2 1/4
6640-00-889-7023	Funnel	III-17	7 1/4 X 4 1/8 X 4 1/8
6640-00-889-7087	Cylinder	III-17	5 1/2 X 1 3/4 X 1 3/4
6640-00-889-7089	Cylinder	III-17	10 1/4 X 2 1/4 X 2 1/4
6640-00-889-7092	Cylinder	III-17	17 1/4 X 5 3/4 X 5
6640-00-890-0880	Beaker	III-20	6 1/4 X 4 1/4 X 4 3/4
6640-00-926-7673	Washer	III-03	9 X 9 X 30 1/2
6640-00-926-7776	Cuvette	III-18	6 1/4 X 4 1/4 X 2 1/2
6640-00-926-8998	Bottle	III-33	6 1/4 X 5 X 4 3/4
6640-00-933-8868	Burner Gas	IC2-06	4 1/4 X 3 X 3
6640-00-935-1122	Stopper Set	III-16	
6640-00-935-1383	Pipet	III-27	2 1/4 X 1 3/4 X 6 5/8
6640-00-935-1407	Pipet Red	III-27	5 X 2 3/4 X 2 1/8
6640-00-935-1410	Pipet White	III-27	5 1/2 X 3 3/4 X 2 7/8
6640-00-935-4069	Bottle	III-03	14 1/2 X 14 1/2 X 10 1/2
6640-00-935-4070	Bottle	III-35	
6640-00-935-4071	Bottle	III-20	22 X 15 X 8 1/2
6640-00-935-4268	Flask	III-18	2 1/2 X 2 1/2 X 4 5/8
6640-00-935-4269	Flask	III-17	6 X 3 1/2 X 3 3/4
6640-00-935-4270	Flask	III-18	7 X 4 X 4
6640-00-935-4271	Flask	III-18	8 1/4 X 8 1/4 X 14 1/2
6640-00-935-4286	Flask	III-17	4 1/2 X 2 1/2 X 2 1/2
6640-00-935-4287	Flask	III-18	8 1/2 X 5 3/4 X 5 3/4
6640-00-935-4288	Flask	III-18	6 1/2 X 6 1/2 X 11
6640-00-938-4723	Flask	III-17	7 X 2 1/4 X 2 1/4
6640-00-938-4758	Flask	III-17	8 1/4 X 3 X 3
6640-00-938-4763	Flask	III-17	10 X 3 3/4 X 3 3/4
6640-00-938-4775	Flask	III-17	11 3/4 X 4 3/4 X 4 3/4
6640-00-942-4393	Beaker	III-18	3 1/4 X 3 1/4 X 3 5/8
6640-00-942-4395	Beaker	III-18	4 1/4 X 4 1/4 X 5 1/4
6640-00-966-3644	Basket	III-17	6 1/8 X 6 1/8 X 6 1/4
6640-00-982-5979	Test Tube	III-03	8 X 4 3/4 X 2 1/4
6640-00-982-5997	Cylinder	III-17	10 7/8 X 2 1/4 X 2 1/4
6640-00-982-5998	Cylinder	III-17	8 X 2 X 2
6640-00-982-7495	Cylinder	III-17	4 1/8 X 1 3/8 X 1 3/8
6645-00-089-6156	Timer	IA15-11	6 X 6 X 6
6650-00-227-8743	Adapter	III-17	4 1/2 X 2 1/8 X 1 7/8
6650-00-976-2507	Adapter	III-17	4 1/4 X 1 3/8 X 1 3/8

Appendix A--Continued  
Section 2.

NSN	Item	Pkg Ref	Container Size (Inches)
6685-00-010-8366	Thermometer	IC2-06	9 1/2 X 2 X 2
6685-00-010-8367	Thermometer	IC2-06	9 1/2 X 2 X 2
6695-00-118-2918	Bag Food	III-03	15 X 8 X 5
6695-00-975-1107	Bag Food	III-03	8 1/2 X 6 1/4 X 6 3/4
6810-00-116-9300	Diphenylcarbazo	III-29	2 3/8 X 2 3/8 X 4 1/2
6810-00-134-0000	Phenolphthalein	III-29	1 3/4 X 1 3/4 X 3 1/8
6810-00-136-3000	Potassium	III-29	2 X 2 X 3 5/8
6810-00-137-5000	Potassium	III-29	2 X 2 X 3 3/4
6810-00-141-3595	Sodium	III-29	2 1/8 X 2 1/8 X 3 7/8
6810-00-153-9974	Methyl	III-29	1 1/2 X 1 1/2 X 2 3/4
6810-00-234-8370	Sodium Chl	III-29	4 1/8 X 2 X 3 5/8
6810-00-281-2781	Starch	III-29	1 5/8 X 1 5/8 X 2 7/8
6810-00-299-8153	Sodium Phos	III-29	2 3/4 X 2 X 4 3/4
7240-00-023-8570	Pail	III-09	11 3/4 X 11 3/4 X 15
8115-00-013-8533	Box Path	III-03	19 7/8 X 9 1/2 X 10 3/4
8125-00-418-7105	Stopper	III-16	
5110-00-161-6909	Shears	IA8-01	
5120-00-237-6985	Screwdriver	III-35	
5120-00-421-0000	Scribber	IC2-02	6 1/4 X 7/8 X 1/4
6230-00-498-9408	Lantern	IC2-01	7 X 5 1/4 X 7
6240-00-155-8681	Lamp	IC2-06	1 X 1 X 1 1/2
6260-00-161-4296	Candle	III-36	9 1/4 X 5 1/4 X 1 7/8
6650-00-514-3531	Magnifier	IC2-05	8 3/4 X 4 1/4 X 1
7330-00-272-2591	Opener Can	IC1-02	
7510-00-174-3205	Pencil Red	IC2-02	7 X 3/4 X 2 1/16
7510-00-205-1439	Rubber Band	III-17	5 1/2 X 3 1/2 X 2 1/2
7510-00-266-6712	Tape Masking	IC2-02	4 7/8 X 4 7/8 X 1 1/4
7510-00-286-5750	Pencil	IC2-02	7 1/2 X 1 3/4 X 1 1/4
7510-00-551-9818	Tape	IC2-02	3 1/4 X 2 1/8 X 7/8
7520-00-281-6175	Time Date Stamp	IC2-02	4 3/4 X 1 7/8 X 1 7/8
7520-00-926-2021	Slide Rule	IC1-02	
7530-00-285-5836	Paper Writing	IC1-02	
7530-00-558-1152	Paper Graph	IC1-02	
7920-00-240-2555	Sponge	IC1-03	
7920-00-297-1510	Brush	IC2-02	10 3/4 X 1 5/8 X 1 5/8
7920-00-409-4000	Brush	IC2-02	17 3/4 X 3 1/4 X 1 3/4
7920-00-409-5500	Brush	IC2-02	9 X 3/4 X 1/2
7930-00-558-1111	Detergent	IC2-09	5 1/4 X 5 1/4 X 10 3/8
8110-00-412-4410	Can Mailing	III-21	7 3/4 X 5 3/4 X 4 3/4
8125-00-174-0855	Bottle	III-16	
8125-00-819-6085	Bottle	III-17	3 5/8 X 3 5/8 X 8 3/8
8415-00-715-0450	Apron	IC1-02	
8540-00-793-5425	Tissue Facial	IC2-02	9 3/4 X 4 3/4 X 1 3/4

Appendix A--Continued  
Section 2.  
PACKAGING REFERENCE LIST  
COMPONENTS FOR  
SHELTER  
NSN 5410-00-933-9387

<u>NSN</u>	<u>Item</u>	<u>Pkg Ref</u>	<u>Container Size (Inches)</u>
4030-00-541-4048	Driving head	III-22	36 x 6 x 6
4030-00-972-2670	Ground anchor assy	III-22	
4720-00-042-4270	Hose, dual, water	III-13	20 x 20 x 3½
4720-00-574-7902	Hose, vacuum	III-02	20 x 20 x 1½
4730-00-080-3332	Drain hose	III-14	24 x 24 x 2½
5120-00-134-4725	Holding handle	III-22	
5120-00-970-6412	Driving rod	III-22	
5340-00-042-8664	Strap assy	III-24	
5410-00-018-7538	Web net assy	III-24	
5410-00-018-7541	Rope net assy	III-03	14 x 14 x 6½
5410-00-022-2653	Air duct assy	III-03	20 x 20 x 23
5410-00-022-2669	Jack assy	III-24	
5410-00-022-2670	Support assy	III-25	
5410-00-022-2671	Jack assy	III-24	
5410-00-022-2673	Plenum assy	III-01	21½ x 21½ x 4½
5410-00-434-6201	Air lock assy	III-25	
5410-00-434-6301	Base plate, jack	III-04	13 x 13 x 6
5410-00-440-9971	Flange assy	III-24	
5410-00-455-9319	Air lock adapter	III-03	24 x 24 x 8
5410-00-466-7429	Tread plate	III-08	
5410-00-466-7438	Tread plate	III-08	
5410-00-485-4744	Bellows assy	III-03	35 x 26 x 8
5410-00-807-5811	Adapter, duct	III-23	21 x 21 x 23
6150-00-467-2541	Cable, 60 HZ	III-25	
6150-00-836-8595	Cable, 400 HZ	III-25	

Appendix A--Continued  
Section 2.

<u>NSN</u>	<u>Item</u>	<u>Pkg Ref</u>	<u>Container Size (Inches)</u>
6210-00-473-9834	Light assy	IC2-01	16 x 14 x 8
8340-00-823-7451	Tent pin	III-22	
8340-00-935-6627	Spike, bow	III-22	

**Appendix A**

**Section 3.**

**PACKAGING DATA SHEETS**

## Section 3.

AMC FORM 1029  
29 JUL 65



### Section 3

AMC FORM 1029

### Section 3

III-03

(AMCR 746-2)

**PREVIOUS EDITIONS ARE OBSOLETE**

## PACKAGING DATA SHEET

**FEDERAL STOCK NO**

(AMCR 715 AM)

35

FEDERAL STOCK NO

(AMC 215 AB)

36



FEDERAL STOCK NO

(CANCER 715 68)

38



## Appendix A--Continued

Section 3.

## PACKAGING DATA SHEET

III-09

FEDERAL STOCK NO

(AMCR 746-2)

FEDERAL ITEM NAME				PART OR DRAWING NO			
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD III	CLEANING C-1	DRYING D-4	
	STEPS	DWG OR SPEC.	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL				
PRESERVATIVE			EXTERNAL				
INTIMATE WRAP							
CUSHIONING							
CONTAINER	1	PPP-B-636	Note 1	RSC	CF	W5C	WR
DESICCANT							
CLOSURE	2	PPP-T-60			III		1
BARRIER							
CONTAINER							
CLOSURE							
UNIT PKG QTY Note 2	UNIT PACKAGE WT	UNIT PACKAGE CUFE	UNIT PACKAGE SIZE (EXTERIOR) FEET				
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO 1 OF 1		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.							
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.							
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.							
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-1187 OR AS OTHERWISE SPECIFIED HEREON.</del> Note 3							
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129 <del>WHICH IS OBSOLETE</del> For level A.							
<p>FIGURES AND NOTES</p> <p>1. Items shall be nested.</p> <p>2. Unit pack in set quantities not to exceed seven (7) each.</p> <p>3. Commercial packaging - items shall be packaged and marked in accordance with MIL-STD-1188 except the unit pack quantity shall be as specified.</p>							









4720-00-042-4270

4730-00-080-3382

(AMCR 715 68)

PART OR DRAWING NO

## CLOSURE

1 OF 1

2. Commercial packaging: Item shall be commercially packaged and marked in accordance with MIL-STD-1188 except unit pack quantity shall be one (1) each.

**FEDERAL STOCK NO**

AMC FORM 1020

Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b>					III-16		FEDERAL STOCK NO	
<small>(AMCR 715 68)</small>								
FEDERAL ITEM NAME					PART OR DRAWING NO			
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD III	CLEANING		DRYING	
	STEPS	DWG OR SPEC	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP								
CUSHIONING								
CONTAINER	1	MIL-B-117	Note 2		2	I		B
DESICCANT								
CLOSURE								
BARRIER								
CONTAINER								
CLOSURE								
UNIT PKG QTY Note 1	UNIT PACKAGE WT	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET					
INTMD PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO 1 OF 1			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> NOTE 3								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232 for Level A.								
<b>FIGURES AND NOTES</b> 1. Items issued as "package" shall be unit packed as one (1). Items issued as "each" shall be unit packed in set quantities. 2. Closure will be by taping, tying, or other suitable means. 3. Commercial packaging - item will be packaged and marked in accordance with MIL-STD-1188 except the unit package quantity will be one (1) unit of issue.								

## FEDERAL STOCK NO

(AMCR 746-2)

**PREVIOUS EDITIONS ARE OBSOLETE**



## FEDERAL STOCK NO

FEDERAL ITEM NAME

PART OR DRAWING NO

## FIGURES AND NOTES

**PREVIOUS EDITIONS ARE OBSOLETE**

## Appendix A--Continued

## Section 3.

PACKAGING DATA SHEET <small>(AMCR 746-2)</small>					III-19		FEDERAL STOCK NO		
FEDERAL ITEM NAME				PART OR DRAWING NO					
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD <b>III</b>		CLEANING		DRYING	
	STEPS	DWG OR SPEC	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS	
PRESERVATIVE			INTERNAL						
PRESERVATIVE			EXTERNAL						
INTIMATE WRAP									
CUSHIONING	1	PPP-C-843	1/2" Note 1			II		B	
CONTAINER	2	PPP-B-636			RSC	CF	W6C	WR	
DI SICCANT									
CLOSURE	3	PPP-T-60				III		I	
BARRIER									
CONTAINER									
CLOSURE									
UNIT PKG QTY <b>1</b>	UNIT PACKAGE WT		UNIT PACKAGE CUBF		UNIT PACKAGE SIZE (EXTERIOR) FEET				
INTMED PKG QTY	PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO <b>1 OF 1</b>			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.									
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.									
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.									
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> Note 2									
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-R-14222. for Level A.									
<b>FIGURES AND NOTES</b>  1. Cushion items separately, securing all surfaces.  2. Commercial packaging - item will be packaged and marked in accordance with MIL-STD-1188 except that unit quantity is to be one (1) each.									

## Section 3.

PACKAGING DATA SHEET <small>(AMCR 746-2)</small>					III-20		FEDERAL STOCK NO		
FEDERAL ITEM NAME				PART OR DRAWING NO					
<b>LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116</b>	ITEM CATEGORY (MIL-STD-647)			METHOD <b>III</b>	CLEANING <b>C-1</b>		DRYING <b>D-4</b>		
	STEPS	DWG OR SPEC	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS	
	PRESERVATIVE		INTERNAL						
	PRESERVATIVE		EXTERNAL						
	INTIMATE WRAP								
	CUSHIONING								
	CONTAINER	1	PPP-B-636	Note 1		RSC	CF	W6C	WR
	DESICCANT								
	CLOSURE	2	PPP-T-60				III		1
	BARRIER								
	CONTAINER								
	CLOSURE								
	UNIT PKG QTY <b>1</b>	UNIT PACKAGE WT	UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET				
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO <b>1 OF 1</b>				
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.									
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.									
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.									
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> Note 2									
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232, for Level A.									
<b>FIGURES AND NOTES</b>  1. Container shall be provided with compartmentalized inserts constructed of the same material as the container to separate the items.  2. Commercial Packaging - items shall be packaged and marked in accordance with MIL-STD-1188 except unit pack quantity shall be one (1) unit of issue.									

## Appendix A--Continued

## Section 2.

## PACKAGING DATA SHEET

III-21

FEDERAL STOCK NO

(AMCR 746-2)

FEDERAL ITEM NAME				PART OR DRAWING NO			
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD III	CLEANING C-1	DRYING D-4	
	STEPS	DWG OR SPEC	SIZE AND NOTES		STYLE	TYPE	GRADE
PRESERVATIVE			INTERNAL				
PRESERVATIVE			EXTERNAL				
INTIMATE WRAP							
CUSHIONING							
CONTAINER	1	PPP-B-636	Note 1		RSC	CF	W5C
DESICCANT							
CLOSURE	2	PPP-T-60				III	1
BARRIER							
CONTAINER							
CLOSURE							
UNIT PKG QTY	UNIT PACKAGE WT	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET				
1							
INTMD PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO		
Note 1					1 OF 1		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.							
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.							
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.							
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> Note 2							
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-B-14232 for Level A.							
FIGURES AND NOTES							
<p>1. Intermediate package in set quantities. Each section shall be provided with compartmentalized inserts, or each unit pack may be individually packed in a box conforming to PPP-B-566, style V.</p> <p>2. Commercial packaging - items shall be packaged and marked in accordance with MIL-STD-1188 except intermediate package quantity shall be the same as specified for Level A.</p>							

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 715 - 68)</small>					III-22		FEDERAL STOCK NO	
FEDERAL ITEM NAME <b>Anchor Equipment Set</b>					PART OR DRAWING NO			
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD <b>III</b>	CLEANING <b>C-1</b>		DRYING <b>D-4</b>	
	STEPS	DWG OR SPEC.	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP								
CUSHIONING								
CONTAINER		(SEE BELOW)						
DESICCANT								
CLOSURE								
BARRIER								
CONTAINER								
CLOSURE								
UNIT PKG QTY <b>1</b>	UNIT PACKAGE WT	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET					
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO <b>1 of 1</b>			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <b>Note 3</b>								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232. for Level A.								
<p><b>FIGURES AND NOTES</b></p> <p>Anchor equipment set consists of the following items:</p> <p>4030-00-541-4048 Drive head - 1 each</p> <p>4030-00-972-2670 Ground anchor assy - 14 each</p> <p>5120-00-970-6412 Driving head - 1 each</p> <p>5120-00-134-4725 Holder, handle - 1 each</p> <p>8340-00-823-7451 Tent pin - 8 each</p> <p>8340-00-935-6627 Spike, Bow - 10 each</p> <p>1. Level A. Preserve as follows:</p> <p style="padding-left: 40px;">a. Coat ground anchor assemblies with type P-1 preservative and allow preservative to dry. Coil cable and wrap in quantities of two (2) each in barrier material conforming to type 1, grade A, class 2 of MIL-B-121. Secure barrier with tape (PPP-T-42),</p> <p style="padding-left: 40px;">b. Unit pack the complete set in a box conforming to PPP-B-636 (RSC) W5c, size 36 x 6 x 6 inches (I.D.) Close box with tape PPP-T-60, type 3.</p> <p>2. Level B. Same as Level A.</p> <p>3. Commercial packaging: The complete anchor set shall be packaged and marked in accordance with MIL-STD-1188 except the container dimensions shall not exceed 36 X 6 X 6 (I.D.).</p>								



Appendix A--Continued  
Section 3

<b>PACKAGING DATA SHEET</b> <small>(AMCR 746-2)</small>					<b>III-24</b>		<b>FEDERAL STOCK NO</b>			
<b>FEDERAL ITEM NAME</b> <u>Components of Shelter</u>					<b>PART OR DRAWING NO</b>					
<b>LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116</b>		<b>ITEM CATEGORY (MIL-STD-647)</b>			<b>METHOD III</b>		<b>CLEANING C-1</b>		<b>DRYING D-4</b>	
	<b>STEPS</b>	<b>DWG. OR SPEC.</b>	<b>SIZE AND NOTES</b>			<b>STYLE</b>	<b>TYPE</b>	<b>GRADE</b>	<b>CLASS</b>	
PRESERVATIVE			INTERNAL							
PRESERVATIVE			EXTERNAL							
INTIMATE WRAP										
CUSHIONING										
CONTAINER										
DESICCANT										
CLOSURE										
BARRIER										
CONTAINER										
CLOSURE										
			SEE NOTE							
<b>UNIT PKG QTY</b>		<b>UNIT PACKAGE WT</b>		<b>UNIT PACKAGE CUBE</b>		<b>UNIT PACKAGE SIZE (EXTERIOR) FEET</b>				
<b>INTMED PKG QTY</b>		<b>PREPARING ACTIVITY</b>		<b>DATE</b>	<b>REVISION</b>	<b>DATE</b>	<b>SHEET NO</b> 1 OF 1			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.										
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.										
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.										
LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.										
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232.										
<b>FIGURES AND NOTES</b>  Components are to be mounted to, or placed in use, in the shelter.										

Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b> <small>(AMCR 746-2)</small>					<b>III-25</b>		<b>FEDERAL STOCK NO</b>			
<b>FEDERAL ITEM NAME</b> Components of Shelter					<b>PART OR DRAWING NO</b>					
<b>LEVEL A UNIT PACKAGE REQUIREMENTS</b> MIL-P-116		<b>ITEM CATEGORY (MIL-STD-647)</b>			<b>METHOD</b> III		<b>CLEANING</b> C-1		<b>DRYING</b> C-4	
	<b>STEPS</b>	<b>DWG OR SPEC.</b>	<b>SIZE AND NOTES</b>			<b>STYLE</b>	<b>TYPE</b>	<b>GRADE</b>	<b>CLASS</b>	
PRESERVATIVE			INTERNAL							
PRESERVATIVE			EXTERNAL							
INTIMATE WRAP										
CUSHIONING										
CONTAINER										
DESICCANT										
CLOSURE										
BARRIER										
CONTAINER										
CLOSURE										
			SEE NOTE							
<b>UNIT PKG QTY</b>	<b>UNIT PACKAGE WT</b>	<b>UNIT PACKAGE CUBE</b>	<b>UNIT PACKAGE SIZE (EXTERIOR) FEET</b>							
<b>INTMED PKG QTY</b>	<b>PREPARING ACTIVITY</b>	<b>DATE</b>	<b>REVISION</b>	<b>DATE</b>	<b>SHEET NO</b> 1 OF 1					
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.										
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.										
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.										
LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.										
MARKING WILL BE IN ACCORDANCE WITH MIL STD-129, MIL-P-14232.										
<b>FIGURES AND NOTES</b>										
Components are to be stored loose in the shelter.										



Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b> <small>(AMCR 746-2)</small>					<b>III-26</b>		<b>FEDERAL STOCK NO</b>			
<b>FEDERAL ITEM NAME</b>					<b>PART OR DRAWING NO</b>					
<b>LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116</b>		<b>ITEM CATEGORY (MIL-STD-647)</b>			<b>METHOD III</b>		<b>CLEANING C-1</b>		<b>DRYING D-4</b>	
		<b>STEPS</b>	<b>DWG. OR SPEC.</b>	<b>SIZE AND NOTES</b>		<b>STYLE</b>	<b>TYPE</b>	<b>GRADE</b>	<b>CLASS</b>	
PRESERVATIVE			INTERNAL							
PRESERVATIVE			EXTERNAL							
INTIMATE WRAP										
CUSHIONING										
CONTAINER										
DESICCANT										
CLOSURE										
BARRIER										
CONTAINER										
CLOSURE										
			SEE NOTE							
<b>UNIT PKG QTY</b>	<b>UNIT PACKAGE WT</b>	<b>UNIT PACKAGE CUBE</b>	<b>UNIT PACKAGE SIZE (EXTERIOR) FEET</b>							
<b>INTMED PKG QTY</b>	<b>PREPARING ACTIVITY</b>	<b>DATE</b>	<b>REVISION</b>	<b>DATE</b>	<b>SHEET NO</b>					
					1 OF 1					
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.										
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.										
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.										
LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.										
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232.										
<b>FIGURES AND NOTES</b>										
<ol style="list-style-type: none"> <li>1. Cushion and/or wrap accessories and place in chamber.</li> <li>2. Item(s) will be stored loose in shelter.</li> </ol>										

## FEDERAL STOCK NO

(AMCR 746-2)

**PREVIOUS EDITIONS ARE OBSOLETE**

Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b> <small>(AMCR 746-2)</small>					<b>III-28</b>		<b>FEDERAL STOCK NO</b>		
<b>FEDERAL ITEM NAME</b>					<b>PART OR DRAWING NO</b>				
<b>LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116</b>	<b>ITEM CATEGORY (MIL-STD-647)</b>			<b>METHOD III</b>	<b>CLEANING C-1</b>		<b>DRYING D-4</b>		
	<b>STEPS</b>	<b>DWG. OR SPEC.</b>	<b>SIZE AND NOTES</b>		<b>STYLE</b>	<b>TYPE</b>	<b>GRADE</b>	<b>CLASS</b>	
PRESERVATIVE			INTERNAL						
PRESERVATIVE			EXTERNAL						
INTIMATE WRAP	1	NNN-P-40							
CUSHIONING									
CONTAINER	2	PPP-B-566	Variety 2 Note 1						
DESICCANT									
CLOSURE									
BARRIER									
CONTAINER									
CLOSURE									
<b>UNIT PKG QTY</b> 12	<b>UNIT PACKAGE WT</b>		<b>UNIT PACKAGE CUBE</b>		<b>UNIT PACKAGE SIZE (EXTERIOR) FEET</b>				
<b>INTMED PKG QTY</b>	<b>PREPARING ACTIVITY</b>		<b>DATE</b>	<b>REVISION</b>	<b>DATE</b>	<b>SHEET NO</b> 1 of 1			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.									
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.									
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.									
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> Note 2									
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232.									
<b>FIGURES AND NOTES</b> 1. Vendors wrap, carton or holder is acceptable.  2. Commercial packaging - items shall be packaged and marked in accordance with MIL-STD-1188 except unit pack quantity shall be one (1) each.									

Appendix A Continued  
Section 3.

<b>PACKAGING DATA SHEET</b>					III-29		FEDERAL STOCK NO		
<small>(AMCR 715 AB)</small>									
FEDERAL ITEM NAME					PART OR DRAWING NO				
LEVEL A UNIT PACKAGE REQUIREMENTS  MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD  III	CLEANING  None		DRYING  None		
	STEPS	DWG. OR SPEC	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS	
PRESERVATIVE			INTERNAL						
PRESERVATIVE			EXTERNAL						
INTIMATE WRAP									
CUSHIONING									
CONTAINER									
DESICCANT									
CLOSURE	1	PPP-T-66	3/4" or 1" wide Note 1			I or II		1	
BARRIER									
CONTAINER	2	PPP-B-636	Note 2		RSC	CF	W5C	WR	
CLOSURE	3	PPP-T-60				III		1	
UNIT PKG QTY	UNIT PACKAGE WT	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET						
INTMED PKG QTY Note 2	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO 1 OF 1				
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.									
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.									
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.									
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> Note 3									
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-PRC-1722, for Level A									
<b>FIGURES AND NOTES</b>  1. Seal bottle cap to bottle to prevent loosening.  2. Intermediate package in set quantities. Containers containing a quantity of two or more shall be provided with compartmentalized inserts constructed of the same material as the container to separate the items.  3. Commercial packaging - items shall be packaged and marked in accordance with MIL-STD-1188 except the intermediate pack quantity shall be the same as specified for Level A.									

## FEDERAL STOCK NO

(AMCR 746-2)

**PREVIOUS EDITIONS ARE OBSOLETE**

# PACKAGING DATA SHEET

(AMCR 746-2)

FEDERAL STOCK NO

2. Commercial Packaging - item shall be packaged and marked in accordance with MIL-STD-1188 except unit pack quantity shall be one (1).

Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b> <small>(AMCR 746-2)</small>					<b>III-32</b>		<b>FEDERAL STOCK NO</b>			
<b>FEDERAL ITEM NAME</b>					<b>PART OR DRAWING NO</b>					
<b>LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116</b>		<b>ITEM CATEGORY (MIL-STD-647)</b>			<b>METHOD III</b>		<b>CLEANING C-1</b>		<b>DRYING D-4</b>	
	<b>STEPS</b>	<b>DWG OR SPEC</b>	<b>SIZE AND NOTES</b>			<b>STYLE</b>	<b>TYPE</b>	<b>GRADE</b>	<b>CLASS</b>	
PRESERVATIVE			INTERNAL							
PRESERVATIVE			EXTERNAL							
INTIMATE WRAP										
CUSHIONING										
CONTAINER	1	PPP-B-676	Variety 2 Note 1				I			
DESICCANT										
CLOSURE	2	PPP-T-60					III		I	
BARRIER										
CONTAINER										
CLOSURE										
<b>UNIT PKG QTY</b> 1		<b>UNIT PACKAGE WT</b>		<b>UNIT PACKAGE CUBE</b>		<b>UNIT PACKAGE SIZE (EXTERIOR) FEET</b>				
<b>INTMD PKG QTY</b>		<b>PREPARING ACTIVITY</b>		<b>DATE</b>	<b>REVISION</b>	<b>DATE</b>	<b>SHEET NO</b> 1 OF 1			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.										
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.										
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.										
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> Note 2										
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232. for Level A.										
<b>FIGURES AND NOTES</b>										
1. Container shall be provided with compartmentalized inserts or holders constructed of molded plastic or paperboard. Manufacturers carton and holders are acceptable.										
2. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 except unit package quantity shall be one (1).										

Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b> <small>(AMCR 715 AR)</small>					III-33		FEDERAL STOCK NO		
FEDERAL ITEM NAME					PART OR DRAWING NO				
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD III	CLEANING		DRYING		
	STEPS	DWG OR SPEC	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS	
PRESERVATIVE			INTERNAL						
PRESERVATIVE			EXTERNAL						
INTIMATE WRAP									
CUSHIONING									
CONTAINER	1	PPP-B-636	Note 1		RSC	CF	W6C	WR	
DESICCANT									
CLOSURE	2	PPP-T-60				III		1	
BARRIER									
CONTAINER									
CLOSURE									
UNIT PKG QTY	UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET				
Note 1									
INTMED PKG QTY	PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO			
Note 1						1 OF 1			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.									
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.									
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.									
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> NOTE 2									
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232 for Level A									
<b>FIGURES AND NOTES</b> 1. Intermediate package in set quantities.  2. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 except items shall be intermediate packaged in the same quantities as specified in Level A.									



Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 715 AR)</small>						III-34		FEDERAL STOCK NO			
FEDERAL ITEM NAME					PART OR DRAWING NO						
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116		ITEM CATEGORY (MIL-STD-647)			METHOD III		CLEANING C-1		DRYING D-1		
STEPS		DWG OR SPEC		SIZE AND NOTES			STYLE	TYPE	GRADE	CLASS	
PRESERVATIVE				INTERNAL							
PRESERVATIVE				EXTERNAL							
INTIMATE WRAP											
CUSHIONING		1 PPP-F-320		Note 1			SW	CF	125	DOM	
CONTAINER											
DESICCANT											
CLOSURE											
BARRIER											
CONTAINER											
CLOSURE											
UNIT PKG QTY Note 1		UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET					
INTMED PKG QTY		PREPARING ACTIVITY		DATE		REVISION		DATE		SHEET NO 1 OF 1	
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.											
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.											
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.											
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> Note 2.											
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129 <del>MIL-P-14232</del> .											
<b>FIGURES AND NOTES</b>  1. Cushioning shall be fabricated as compartmentalized inserts to fit into cabinet drawers. Compartment size shall be snug fitting for the applicable item. Overall insert size shall be snug fitting in the drawers. Items shall be placed in the respective compartments without overpacking.  2. Commercial packaging. Items shall be packaged and marked in accordance with MIL-STD-1188 except unit pack quantity shall be one (1).											

## FEDERAL STOCK NO

(AMCR 715 GR)

66

Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b> <small>(AMCR 715 681)</small>					III-36		FEDERAL STOCK NO		
FEDERAL ITEM NAME					PART OR DRAWING NO				
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD III	CLEANING	DRYING			
	STEPS	DWG. OR SPEC	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS		
PRESERVATIVE			INTERNAL						
PRESERVATIVE			EXTERNAL						
INTIMATE WRAP	1	MTL-P-17667	Note 1		I				
CUSHIONING									
CONTAINER	2	PPP-B-566	Variety 2	VIII	B		a		
DESICCANT									
CLOSURE	3	PPP-T-60			III		1		
BARRIER									
CONTAINER									
CLOSURE									
UNIT PKG QTY 1	UNIT PACKAGE WT	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET						
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO 1 of 1				
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.									
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.									
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.									
<del>LEVEL B: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> Note 2									
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232.									
<b>FIGURES AND NOTES</b>  1. Wrap items individually.  2. Commercial packaging - items shall be packaged and marked in accordance with MIL-STD-1188 except unit pack quantity shall be one (1).									

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 715 AB)</small>						III-37		FEDERAL STOCK NO			
FEDERAL ITEM NAME				PART OR DRAWING NO							
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD III		CLEANING C-1		DRYING D-4			
	STEPS	DWG. OR SPEC.	SIZE AND NOTES			STYLE	TYPE	GRADE	CLASS		
	PRESERVATIVE			INTERNAL							
	PRESERVATIVE			EXTERNAL							
	INTIMATE WRAP										
	CUSHIONING	1	PPP-C-343	1/4"				II		B	
	CONTAINER	2	PPP-B-566	Variety 2			X				
	DESICCANT										
	CLOSURE	3	PPP-T-60					III		1	
	BARRIER										
	CONTAINER										
	CLOSURE										
UNIT PKG QTY 1		UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET					
INTMED PKG Q		PREPARING ACTIVITY		DATE		REVISION		DATE		SHEET NO 1 OF 1	
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.											
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.											
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.											
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> NOTE 2											
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232 for Level A.											
<b>FIGURES AND NOTES</b>  1. Manufacturer water resistant carton and closure is acceptable.  2. Commercial packaging - items shall be packaged and marked in accordance with MIL-STD-1188 except unit pack quantity shall be one (1).											

Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b> <small>(AMCR 746-2)</small>					IC1-01		FEDERAL STOCK NO			
FEDERAL ITEM NAME					PART OR DRAWING NO					
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116		ITEM CATEGORY (MIL-STD-647)			METHOD 1C-1		CLEANING C-1		DRYING D-4	
		STEPS	DWG. OR SPEC.	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS	
PRESERVATIVE				INTERNAL						
PRESERVATIVE				EXTERNAL						
INTIMATE WRAP										
CUSHIONING		1	PPP-C-843				II		B	
CONTAINER										
DESICCANT										
CLOSURE										
BARRIER		2	MIL-B-117			1	III		B	
CONTAINER										
CLOSURE										
UNIT PKG QTY		UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET				
1										
INTMED PKG QTY		PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO			
							1 of 1			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.										
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.										
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <b>NOTE 1</b>										
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <b>NOTE 2</b>										
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14289 for Levels A and B										
<b>FIGURES AND NOTES</b>  1. Level B, Method III - same as level A except bag may be closed by staples, tape or other suitable means.  2. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 except the unit pack quantity shall be one (1) each.										

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 746-2)</small>					IC1-02	FEDERAL STOCK NO	
FEDERAL ITEM NAME				PART OR DRAWING NO			
<b>LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116</b>	ITEM CATEGORY (MIL-STD-647)			METHOD IC-1	CLEANING C-1	DRYING D-4	
	STEPS	DWG. OR SPEC.	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS
	PRESERVATIVE		INTERNAL				
	PRESERVATIVE		EXTERNAL				
	INTIMATE WRAP	1	UU-P-268		I	B	
	CUSHIONING						
	CONTAINER						
	DESICCANT						
	CLOSURE	2	PPP-T-42		II		
	BARRIER	3	MIL-P-117		I		C
	CONTAINER						
	CLOSURE						
UNIT PKG QTY <b>1</b>	UNIT PACKAGE WT	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET				
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO <b>1 OF 1</b>		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.							
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION 1 FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.							
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <b>NOTE 1</b>							
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <b>NOTE 2</b>							
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232. for levels A and B.							
<b>FIGURES AND NOTES</b>  1. Level B, Method III - follow steps 1 and 2 of level A.  2. Commercial packaging - item shall be packaged and packed in accordance with MIL-STD-1188 except unit pack quantity shall be one (1) each.							

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMC 715 A1)</small>					IC1-03		FEDERAL STOCK NO	
FEDERAL ITEM NAME				PART OR DRAWING NO				
<b>LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116</b>	ITEM CATEGORY (MIL-STD-647)			METHOD <b>1C-1</b>	CLEANING		DRYING	
	STEPS	DWG. OR SPEC.		SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP	1	MIL-P-17667				I		
CUSHIONING								
CONTAINER								
DESICCANT								
CLOSURE	2	PPP-P-42				II		
BARRIER	3	MIL-B-117			1	III		B
CONTAINER								
CLOSURE								
UNIT PKG QTY <b>1</b>	UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET			
INTMED PKG QTY	PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO <div style="text-align: right;">OF 1</div>		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE, THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <span style="float: right;">NOTE 1</span>								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/ <del>XXXXXX</del> for levels A and B.								
<b>FIGURES AND NOTES</b> 1. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 except unit pack quantity shall be one (1)								

Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b> <small>(AMCR 715 APR)</small>					ICI-04		FEDERAL STOCK NO		
FEDERAL ITEM NAME					PART OR DRAWING NO				
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD 1C-1	CLEANING C-1	DRYING D-4			
	STEPS	DWG OR SPEC.	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS		
PRESERVATIVE			INTERNAL						
PRESERVATIVE			EXTERNAL						
INTIMATE WRAP	1	MIL-B-130			III				
CUSHIONING									
CONTAINER									
DESICCANT									
CLOSURE	2	PPP-T-42			III				
BARRIER	3	MIL-B-117		1	III		B		
CONTAINER									
CLOSURE									
UNIT PKG QTY 2	UNIT PACKAGE WT	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET						
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO 1 of 1				
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.									
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE, THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.									
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <span style="float: right;">NOTE 1</span>									
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <span style="float: right;">NOTE 2</span>									
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-1772, for Level A and B									
<b>FIGURES AND NOTES</b> 1. Level B, Method III - follow steps 1, 2, and 3 of level A except bag may be closed by tying, staples, or other suitable means.  2. Commercial packaging - items shall be packaged and marked in accordance with MIL-STD-1188 except unit pack quantity shall be two (2).									



Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b>					IC1-05		FEDERAL STOCK NO	
<small>(AMCR 715 48)</small>								
FEDERAL ITEM NAME					PART OR DRAWING NO			
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD IC-1	CLEANING		DRYING	
	STEPS	DWG. OR SPEC.	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP								
CUSHIONING								
CONTAINER								
DESICCANT								
CLOSURE								
BARRIER	1	MIL-B-117			1	1		C
CONTAINER								
CLOSURE								
UNIT PKG QTY Note 1	UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET			
INTMED PKG QTY	PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO 1 OF 1		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-1162 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. Note 2.								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON. No</del>								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/129-1 for levels A and B.								
<b>FIGURES AND NOTES</b>  1. Package in set quantities.  2. Level B. Method III. Same as level A except bag may be closed by staples, tape or other suitable means.  3. Commercial packaging. Item shall be packaged and marked in accordance with MIL-STD-1188 except unit pack quantity shall be three (3).								

## FEDERAL STOCK NO

(LANCET 215, 68)

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PREVIOUS EDITIONS ARE OBSOLETE



Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 746-2)</small>					IC2-04		FEDERAL STOCK NO		
FEDERAL ITEM NAME				PART OR DRAWING NO					
<b>LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116</b>	ITEM CATEGORY (MIL-STD-647)			METHOD 1C-2	CLEANING None		DRYING None		
	STEPS	DWG OR SPEC	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS	
	PRESERVATIVE		INTERNAL						
	PRESERVATIVE		EXTERNAL						
	INTIMATE WRAP								
	CUSHIONING								
	CONTAINER	1	PPP-B-636	Note 1		RSC	CF	125	DOM
	DESICCANT								
	CLOSURE	2	PPP-T-42	Note 1			II		
	BARRIER	3	MIL-B-117	Note 2		1	III		B
CONTAINER									
CLOSURE									
UNIT PKG QTY 1		UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET			
INTMED PKG QTY Note 2		PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO 1 OF 1		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.									
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.									
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.									
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> Note 3									
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232. for Level A.									
<b>FIGURES AND NOTES</b>  1. Manufacturers carton and closure are acceptable. Carton shall be provided with paperboard compartmentalized inserts.  2. Apply to intermediate package. Intermediate package in set quantities.  3. Commercial packaging - items shall be packaged and marked in accordance with MIL-STD-1188 except intermediate pack quantity shall be the same as specified for Level A.									





**FEDERAL STOCK NO**

(AMCR 715 4R)

AMC FORM 1000



Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 715 68)</small>					IC2-08	FEDERAL STOCK NO	
FEDERAL ITEM NAME				PART OR DRAWING NO			
<b>LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116</b>	ITEM CATEGORY (MIL-STD-647)			METHOD 1C-2	CLEANING C-1	DRYING D-4	
	STEPS	DWG OR SPEC.	SIZE AND NOTES		STYLE	TYPE	GRADE
	PRESERVATIVE		INTERNAL				
	PRESERVATIVE		EXTERNAL				
	INTIMATE WRAP	1	NN-P-40				
	CUSHIONING						
	CONTAINER	2	PPP-B-676	Variety 1 Note 1		I	
	DESICCANT						
	CLOSURE	3	PPP-T-42			II	
	BARRIER	4	MIL-B-117		1	III	B
CONTAINER							
CLOSURE							
UNIT PKG QTY 1	UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET		
INTMED PKG QTY	PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO 1 OF 1	
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.							
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.							
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <b>NOTE 2</b>							
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <b>NOTE 3</b>							
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129 <del>AND MIL-STD-130</del> for levels A and B.							
<b>FIGURES AND NOTES</b>  1. Manufacturers container is acceptable.  2. Level B, Method III - follow steps 1, 2, and 3 of Level A.  3. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 except unit pack quantity shall be one (1)							

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 715 681)</small>					IC2-09		FEDERAL STOCK NO	
FEDERAL ITEM NAME				PART OR DRAWING NO				
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD 1C-2	CLEANING		DRYING	
	STEPS	DWG OR SPEC.	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP								
CUSHIONING								
CONTAINER	1	PPP-B-636			RSC	CF	125	DOM
DESICCANT								
CLOSURE	2	PPP-T-42				III		
BARRIER	3	MIL-B-117			1	III		B
CONTAINER								
CLOSURE								
UNIT PKG QTY 1	UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET			
INTMED PKG QTY	PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO 1 OF 1		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> Note 1								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232 for levels A and B.								
<p>FIGURES AND NOTES</p> <p>1. Commercial packaging - items shall be packaged and marked in accordance with MIL-STD-1188 except unit pack quantity shall be one (1).</p>								

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 746-2)</small>					IC3-01		FEDERAL STOCK NO	
FEDERAL ITEM NAME				PART OR DRAWING NO.				
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD IC3	CLEANING C-1	DRYING D-4		
	STEPS	DWG. OR SPEC.	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP	2	PPP-C-843				II		B
CUSHIONING	1	UU-P-553				I		2
CONTAINER								
DESICCANT								
CLOSURE								
BARRIER	3	MIL-B-117			I	III		B
CONTAINER								
CLOSURE								
UNIT PKG QTY	UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET			
1								
INTMED PKG QTY	PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO		
						1 OF 1		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14237 OR AS OTHERWISE SPECIFIED HEREON.</del>								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14239. for Level A.								
FIGURES AND NOTES								
<p>1. Commercial Packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications:</p> <p style="margin-left: 40px;">a. unit pack quantity shall be one (1) each.</p> <p style="margin-left: 40px;">b. container inside dimensions shall not exceed the exterior dimensions of the item by more than 1/4 inch.</p>								

## PACKAGING DATA SHEET

**FEDERAL STOCK NO**

{AMC# 713 60}

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Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 746-2)</small>					IA8-03	FEDERAL STOCK NO 4110-00-113-8334	
FEDERAL ITEM NAME <b>Refrigerator Mechanical Biological - Blood</b>				PART OR DRAWING NO			
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD 1A-8 Mod	CLEANING C-1	DRYING D-1	
	STEPS	DWG. OR SPEC.	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL				
PRESERVATIVE			EXTERNAL				
INTIMATE WRAP							
CUSHIONING	1	PPP-C-843	Note 1		II		B
CONTAINER							
DESICCANT							
CLOSURE							
BARRIER	3	MTL-B-131					1
CONTAINER	4	PPP-B-640	27½ X 26 X 38"	G			2
CLOSURE	5	PPP-T-97			II		A
	2	PPP-F-320	Note 1	SW	CF	125	DOM
UNIT PKG QTY 1	UNIT PACKAGE WT 250 lbs.	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET				
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO 1 of 1		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.							
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.							
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <b>NOTE 1</b>							
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <b>NOTE 4</b>							
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232 for levels A and B							
<b>FIGURES AND NOTES</b> 1. Cushion and secure loose items within the refrigerator. 2. Encapsulate refrigerator in barrier. 3. Level B, Method III - follow steps 1, 2, 4, and 5 of Level A. 4. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications: a. unit pack quantity shall be one (1) each. b. inside dimensions of unit pack container shall not exceed the exterior dimensions of the item by more than 1/4 inch.							

Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b> <small>(AMCR 746-2)</small>					IA13-01		FEDERAL STOCK NO		
FEDERAL ITEM NAME					PART OR DRAWING NO				
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD IA-13 Note 1	CLEANING C-1		DRYING MIL-P-116		
	STEPS	DWG OR SPEC	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS	
PRESERVATIVE			INTERNAL						
PRESERVATIVE			EXTERNAL						
INTIMATE WRAP									
CUSHIONING									
CONTAINER	1		NOTE 2						
DESICCANT									
CLOSURE									
BARRIER									
CONTAINER									
CLOSURE									
UNIT PKG QTY 1	UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET				
INTMED PKG QTY	PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO 1 OF 2			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.									
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.									
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.									
<del>LEVEL B: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> NOTE 3									
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-R-1232. for Level A									
<p>FIGURES AND NOTES</p> <p>1. Sterile pack</p> <p>2. Package in sterilizing pack using the applicable material from attached list. Pack shall be heat sealed.</p> <p>3. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications:</p> <p style="margin-left: 40px;">a. Unit pack quantity shall be one (1) each</p> <p style="margin-left: 40px;">b. Unit pack shall be a sterile pack.</p>									



Appendix A--Continued  
Section 3

PACKAGING DATA SHEET (Continued)  
(AMCR 746-2)

SHEET 2 OF 2 SHEETS

MATERIALS AND EQUIPMENT

NSN	DESCRIPTION	UNIT
6530-00-104-7532	Tube, Sterilizing, Plastic, 18" x 500'	Roll
6530-00-104-6794	Tube, Sterilizing, Plastic, 8" x 500'	Roll
NS	Seal'N Peel Pack, 18" x 24", Busse Hospital Disposable Co., Cat No. 917 or equal	Box
NS	Dual Peel Pack, 11 1/2" x 16 1/2", Tower Products Co., Cat No. 91218 or equal	Box
NS	Dual Peel Pack, 4" x 8", Chaston Products Co., Cat No. 90610 or equal	Box
NS	Visi-Peel Pack, 3 1/2" x 8", Chaston Products Co., Cat No. 10-108 or equal	Box
NS	Visi-Peel, 5 1/4" x 15", Tower Products Co., Cat No. 10-105 or equal	Box
NS	Tubing polyester film, flat open-end tubes, 4 1/2 mil wall thickness, 4" wide by 56" long, ID, Minnesota Mining & Mfg. Co., Scotchpak No. 45A27 or equal	Piece
NS	Tubing, polyester film, flat open-end tubes, 4 1/2 mil wall thickness, 6" wide by 56" long ID, Minnesota Mining & Mfg. Co., Scotchpak No. 45A27 or equal	Piece
NS	Dust Cover, 20" x 24" Tower Products Co., Cat No. 11620D or equal	Box
NS	Dust Cover, 10" x 15", Tower Products Co., Cat No. 11015D or equal	Box
NS	Dust Cover, 24" x 36", Tower Products Co., Cat No. 12430D	Box
FEDERAL ITEM NAME		PREPARING ACTIVITY
		DATE
		REVISION
		DATE
		PART OR DRAWING NO.
		FEDERAL STOCK NO.

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 715 68)</small>					IA13-02		FEDERAL STOCK NO	
FEDERAL ITEM NAME				PART OR DRAWING NO				
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD 1A-13(Note 1)	CLEANING C-1	DYEING MIL-P-116		
	STEPS	DWG OR SPEC	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS	
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP								
CUSHIONING								
CONTAINER	1		(Note 2)					
DESICCANT								
CLOSURE								
BARRIER								
CONTAINER	2	PPP-B-636	(Note 3)	RSC	CF	W6C	WR	
CLOSURE								
UNIT PKG QTY 1	UNIT PACKAGE WT	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET					
INTMED PKG QTY Note 3	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO 1 OF 2			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON.								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> (Note 4)								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232, for Level A.								
<b>FIGURES AND NOTES</b>  1. Sterile pack  2. Package items individually in sterile pack using applicable material from attached list. Pack shall be heat sealed.  3. Package individually preserved items in unit pack quantity  4. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications: a. Items shall be individually packaged in a sterile pack. b. Unit pack quantity shall be one (1).								

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET (Continued) (AMCR 746-2)		SHEET 2 OF 2 SHEETS	
MATERIALS AND EQUIPMENT			
<u>NSN</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	
6530-00-104-7532	Tube, Sterilizing, Plastic, 18" x 500'	Roll	
653--00-104-6794	Tube, Sterilizing, Plastic, 8" x 500'	Roll	
NS	Seal'N Peel Pack, 18" x 24", Busse Hospital Disposable Co., Cat No. 917 or equal	Box	
NS	Dual Peel Pack, 11 1/2" x 16 1/2", Tower Products Co., Cat No. 91218 or equal	Box	
NS	Dual Peel Pack, 4" x 8", Chaston Products Co., Cat No. 90610 or equal	Box	
NS	Visi-Peel Pack, 3 1/2" x 8", Chaston Products Co., Cat No. 10-108 or equal	Box	
NS	Visi-Peel, 5 1/4" x 15", Tower Products Co., Cat No. 10-105 or equal	Box	
NS	Tubing polyester film, flat open-end tubes, 4 1/2 mil wall thickness, 4" wide by 56" long, ID, Minnesota Mining & Mfg. Co., Scotchpak No. 45A27	Piece	
NS	Tubing, polyester film, flat open-end tubes, 4 1/2 mil wall thickness, 6" wide by 56" long ID, Minnesota Mining & Mfg. Co., Scotchpak No. 45A27 or equal	Piece	
NS	Dust Cover, 20" x 24", Tower Products Co., Cat No. 11620D or equal	Box	
NS	Dust Cover, 10" x 15", Tower Products Co., Cat No. 11015D or equal	Box	
NS	Dust Cover, 24" x 36", Tower Products Co., Cat No. 12430D	Box	
		PREPARING ACTIVITY	DATE
		REVISION	DATE
FEDERAL ITEM NAME		PART OR DRAWING NO.	FEDERAL STOCK NO.

6670-00-022-8013

REFUGEE EDITIONS 1950-1951 ETC



Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b> <small>(AMCR 746-2)</small>					IA15-03		FEDERAL STOCK NO 6640-00-468-1008	
FEDERAL ITEM NAME <b>Laboratory Mixer</b>					PART OR DRAWING NO			
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD IA-15	CLEANING C-1	DRYING D-1		
	STEPS	DWG OR SPEC	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS	
PRESERVATIVE			INTERNAL					
PRESERVATIVE	1	MIL-C-16173	EXTERNAL Note 1			2		
INTIMATE WRAP	2	MIL-B-121	Note 2		II	A	2	
CUSHIONING	3	PPP-C-843	Note 3		II		B	
CONTAINER	4	PPP-B-636	Note 4	RSC	CF	175	DOM	
DESICCANT								
CLOSURE	5	PPP-T-42	Note 5		II			
BARRIER	8	MIL-B-117		1	I		E	
CONTAINER	6	PPP-B-636	36½ X 10½ X 13 Note 6	RSC	CF	200	DOM	
CLOSURE	7	PPP-T-42			II			
UNIT PKG QTY 1	UNIT PACKAGE WT 33 lbs.	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET					
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO 1 OF 2			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <b>NOTE 7</b>								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <b>NOTE 8</b>								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232 for Levels A and B								
<b>FIGURES AND NOTES</b> 1. Apply preservative to motor shaft, threads, and other bare ferrious surfaces. 2. Wrap preserved items. Secure wrap with tape (PPP-T-42). 3. Individually wrap motor, base, calumn, shafts with heads (Duplex and Simplex) with cushioning. 4. Place items in boxes as follows: a. motor - box dimensions - 10" X 6" X 10½" b. base and shafts - box dimensions - 17" X 2½" X 12½" c. calumn - box dimensions - 36" X 1½" X 1½" 5. Use to close all boxes. 6. Unit pack complete item in box 7. Level B, Method IC-2 - follow steps 1,2,3,4,5,6, and 7 of level A and inclose in a bag conforming to MIL-B-117, style 2, type I, class C.								

Appendix A--Continued  
Section 3

**PACKAGING DATA SHEET (Continued)**  
(AMCR 746-2)

SHEET 2 OF 2 SHEETS

8. Commercial Packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications:

- a. unit pack quantity shall be one (1) each.
- b. exterior dimensions of unit pack container shall not exceed 37 X 11 X 13½ inches.

PREPARING ACTIVITY	DATE
REVISION	DATE
PART OR DRAWING NO.	FEDERAL STOCK NO. 6640-00-468-1008

FEDERAL ITEM NAME  
Laboratory Mixer

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 746-2)</small>				IA15-05		FEDERAL STOCK NO	
FEDERAL ITEM NAME <b>Demineralizer Water</b>				PART OR DRAWING NO			
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD <b>1A-15</b>	CLEANING <b>C-1</b>	DRYING <b>D-1</b>	
	STEPS	DWG OR SPEC	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL				
PRESERVATIVE			EXTERNAL				
INTIMATE WRAP	1	UU-P-268			I	B	
CUSHIONING							
CONTAINER	3	PPP-B-636	8½ X 7½ X 19"	RSC	CF	125	DOM
DESICCANT							
CLOSURE	4	PPP-T-42	45"		II		
BARRIER	5	MIL-B-117	30 X 28	1	II		E
CONTAINER							
CLOSURE							
Blocking	2	PPP-F-320	Note 1	DW	CF	200	DOM
UNIT PKG QTY	UNIT PACKAGE WT	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET				
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO 1 OF 1		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.							
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.							
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <b>NOTE 2</b>							
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <b>NOTE 3</b>							
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232 for Levels A and B							
<b>FIGURES AND NOTES</b> 1. Fabricate fiberboard sleeve 6" X 6" X 12½" O.D. and place around tube.  2. Level B, Method 1C-2 - follow steps 1,2,3, and 4 of level A and inclose in a bag conforming to MIL-B-117, style 1, type II, class B.  3. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications: a. unit pack quantity shall be one (1) each. b. unit pack container dimensions shall not exceed 8½ X 7½ X 19 inches - (I.D.)							



Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET (AMCR 746-2)					IA15-07	FEDERAL STOCK NO	
FEDERAL ITEM NAME				PART OR DRAWING NO			
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)		METHOD IA-15	CLEANING C-1	DRYING D-4		
	STEPS	DWG. OR SPEC.	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL				
PRESERVATIVE			EXTERNAL				
INTIMATE WRAP	1	UU-P-268	Note 1		I	B	
CUSHIONING	2	PPP-C-843	Note 2		II		B
CONTAINER	3	PPP-B-636		RSC	CF	125	DOM
DESICCANT							
CLOSURE	4	PPP-T-42			II		
BARRIER							
CONTAINER	5	MIL-B-117		1	I		E
CLOSURE							
UNIT PKG QTY 1	UNIT PACKAGE WT	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET				
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO 1 of 1		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.							
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.							
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <span style="float: right;">NOTE 3</span>							
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <span style="float: right;">NOTE 4</span>							
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232. for Levels A and B.							
<p>FIGURES AND NOTES</p> <p>1. Wrap 2 top screws. Wrap foot switch. Wrap pump.</p> <p>2. Cushion foot switch. Cushion pump.</p> <p>3. Level B, Method IC-2 - follow steps 1,2,3, and 4 of level A and inclose in a bag conforming to MIL-B-117, style 1, type III, class B.</p> <p>4. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications:</p> <p style="margin-left: 40px;">a. unit pack quantity shall be one (1) each.</p> <p style="margin-left: 40px;">b. Unit pack container inside dimensions shall not exceed the exterior dimensions of the item by more than 1/4 inch.</p>							

## AMC FORM 1020

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET (Continued)  
(AMCR 746-2)

SHEET 2 OF 2 SHEETS

SIDE VIEW

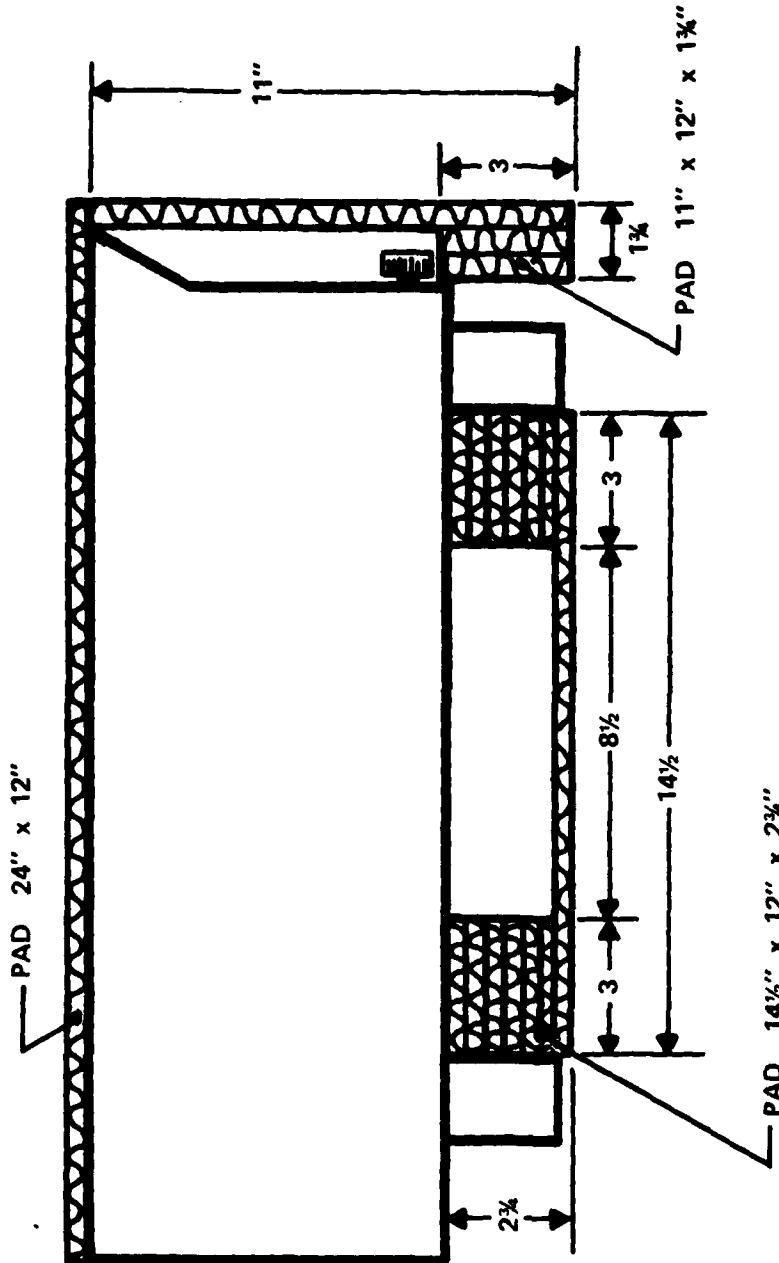


FIGURE 1

FEDERAL ITEM NAME  
Hot Plate

PREPARING ACTIVITY

DATE

REVISION

DATE

PART OR DRAWING NO.

FEDERAL STOCK NO.  
6640-00-C73-0627

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 715-68)</small>					IA15-09		FEDERAL STOCK NO	
FEDERAL ITEM NAME				PART OR DRAWING NO				
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD IA-15	CLEANING C-1	DRYING D-4		
	STEPS	DWG OR SPEC	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS	
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP								
CUSHIONING								
CONTAINER	1	PPP-B-636		RSC	CF	125	DOM	
DESICCANT								
CLOSURE	2	PPP-T-42			II			
BARRIER	3	MIL-B-117		2	I			E
CONTAINER								
CLOSURE								
UNIT PKG QTY	UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET			
1								
INTMED PKG QTY	PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO		
						1 OF 1		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <span style="float: right;">SEE NOTE 1</span>								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <span style="float: right;">NOTE 2</span>								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-A-14232 for Levels A and B.								
<b>FIGURES AND NOTES</b> 1. Level B, Method 1C-2. Follow steps 1 and 2 of Level A and inclose in a bag conforming to MIL-B-117, Style 1, Type II, Class B.  2. Commercial packaging: Item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications. <div style="margin-left: 40px;">             a. Unit pack quantity shall be one (1) each.               b. Container inside dimensions shall not exceed the exterior dimensions of the item by more than 1/4 inch.           </div>								

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 715 - 681)</small>					IA15-10		FEDERAL STOCK NO 6650-00-428-7050	
FEDERAL ITEM NAME <b>Light, Microscope</b>				PART OR DRAWING NO				
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD 1A-15	CLEANING C-1		DRYING D-4	
	STEPS	DWG. OR SPEC.	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP								
CUSHIONING	1	PPP-C-1797	(Note 1)					
CONTAINER	2	PPP-B-636	11 X 6 X 7½ (Note 2)		RSC	CF	125	DOM
DESICCANT								
CLOSURE	3	PPP-T-42				II		
BARRIER	4	MIL-B-117			1	II		E
CONTAINER								
CLOSURE								
UNIT PKG QTY <b>1</b>	UNIT PACKAGE WT <b>9</b>	UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET				
INTMD PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO <b>1 OF 1</b>			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <b>SEE NOTE 3</b>								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <b>NOTE 4</b>								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-1188. <b>for Levels A and B</b>								
<b>FIGURES AND NOTES</b> 1. Wrap lamp and all accessories individually with a minimum of 1/4 inch of cushioning Secured with tape (PPP-T-42). Fill voids within container with cushioning.  2. Manufacturers containers and closure is acceptable.  3. Level B, Method IC-2: Follow steps 1, 2, and 3 of Level A and inclose in a bag conforming to MIL-B-117, Style 1, Type II, Class B.  4. Commercial packaging: Item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications: a. Unit pack quantity shall be one (1) each. b. Container inside dimensions shall not exceed the exterior dimensions of the item by more than 1/4 inch.								

AMC FORM 1070

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 746-2)</small>					IA15-12	FEDERAL STOCK NO  6640-00-930-9034	
FEDERAL ITEM NAME <b>Centrifuge, Laboratory</b>				PART OR DRAWING NO			
LEVEL A UNIT PACKAGE REQUIREMENTS  MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD <b>1A-15</b>	CLEANING <b>C-1</b>	DRYING <b>D-4</b>	
	STEPS	DWG OR SPEC.	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL				
PRESERVATIVE			EXTERNAL				
INTIMATE WRAP							
CUSHIONING	1	PPP-C-843	Note 1		II		B
CONTAINER	2	PPP-B-636	13½ X 13½ X 12½ Note 2	RSC	CF	200	DOM
DESICCANT							
CLOSURE	3	PPP-T-42	Note 2		II		
BARRIER	4	MIL-B-117		1	II		E
CONTAINER							
CLOSURE							
UNIT PKG QTY <b>1</b>	UNIT PACKAGE WT <b>22</b>	UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET			
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO <b>1 of 1</b>		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.							
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.							
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <b>NOTE 3</b>							
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <b>NOTE 4</b>							
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-STD-1292 for Levels A and B.							
<p><b>FIGURES AND NOTES</b></p> <p>1. Accessories shall be individually cushioned and placed within guard bowl and then cushioned to prevent movement. Wrap complete with cushioning.</p> <p>2. Manufacturers carton and closure is acceptable.</p> <p>3. Level B, Method IC-2 - follow steps 1, 2, and 3 of level A and enclose in a bag conforming to MIL-B-117, style 2, type I, class C.</p> <p>4. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications:</p> <p style="padding-left: 20px;">a. unit pack quantity shall be one (1) each.</p> <p style="padding-left: 20px;">b. Container inside dimensions shall not exceed the exterior dimensions of the item by more than 1/4 inch.</p>							

6640-00-145-1180

1 of 1



Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 746-2)</small>				IA15-14	FEDERAL STOCK NO  6640-00-299-9835			
FEDERAL ITEM NAME <b>Centrifuge</b>				PART OR DRAWING NO				
LEVEL A UNIT PACKAGE REQUIREMENTS  MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD <b>IA-15</b>	CLEANING <b>C-1</b>		DRYING <b>D-4</b>	
	STEPS	DWG OR SPEC	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS	
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP								
CUSHIONING	1	PPP-C-843	Note 1		II			B
CONTAINER	2	PPP-B-636	8 3/4 X 8 3/4 X 8 1/2	RSC	CF	175		DOM
DESICCANT								
CLOSURE	3	PPP-T-42			II			
BARRIER	4	MIL-B-117		1	I			E
CONTAINER								
CLOSURE								
UNIT PKG QTY <b>1</b>	UNIT PACKAGE WT <b>20</b>		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET			
INTMED PKG QTY	PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO <b>1 of 1</b>		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <b>NOTE 2</b>								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <b>NOTE 3</b>								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-11737: for Levels A and B								
<p>FIGURES AND NOTES</p> <p>1. Cushion wrench</p> <p>2. Level B, Method 1C-2 - follow steps 1,2, and 3 of Level A and inclose in a bag conforming to MIL-B-117, style 2, type I, class C.</p> <p>3. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications:</p> <p style="margin-left: 40px;">a. unit pack quantity shall be one (1) each.</p> <p style="margin-left: 40px;">b. container inside dimensions shall not exceed the exterior dimensions of the item by more than 1/8 inch.</p>								

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 746-2)</small>						IA15-15	FEDERAL STOCK NO  6530-00-480-6007	
FEDERAL ITEM NAME <b>Pump and Filler, Prescription Bottle</b>					PART OR DRAWING NO			
<b>LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116</b>	ITEM CATEGORY (MIL-STD-647)			METHOD <b>IA-15</b>	CLEANING <b>C-1</b>	DRYING <b>D-4</b>		
	STEPS	DWG OR SPEC	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS
	PRESERVATIVE	1	WV-L-800	INTERNAL	Note 1			
	PRESERVATIVE	2	MIL-C016173	EXTERNAL	Note 2			
	INTIMATE WRAP							
	CUSHIONING	3	PPP-C-1797	Note 3				
	CONTAINER	4	PPP-B-636	Note 4		RSC	CF	175 DOM
	DESICCANT							
	CLOSURE	5	PPP-T-42	Note 5			II	
	BARRIER	8	MTL-B-117			1	I	E
CONTAINER	6	PPP-B-636	37 X 10½ X 10 Note 6		RSC	CF	200	DOM
CLOSURE	7	PPP-T-42	Note 5			II		
UNIT PKG QTY <b>1</b>		UNIT PACKAGE WT <b>38</b>		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET		
INTMD PKG QTY		PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO <b>1 OF 1</b>	
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <b>NOTE 7</b>								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON. NOTE 8</del>								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MTL-P-14232. <b>for Levels A and B</b>								
<b>FIGURES AND NOTES</b> 1. Coat interior surfaces of pump. 2. Apply to unpainted surfaces of motor shaft. 3. Individually wrap motor and pump unit, tubular adaptors, mufflers, and separator. Secure wrap with tape (PPP-T-42). 4. Place items in boxes as follows and fill voids with cushioning: a. motor and pump unit - box dimensions - 18 X 7 X 8 3/4 b. adapters, mufflers, separator and hose - box dimensions - 18 X 10 X 9½ 5. Use to close all boxes. 6. Unit pack complete item in box. 7. Level B, Method IC-2 - follow steps 1,2,3,4,5,6, and 7 of level A and inclose in a bag conforming to MIL-B-117, style 2, type I, class C. 8. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications: a. unit pack quantity shall be one (1) each. b. Exterior dimension of unit pack container shall not exceed 37½ X 11 X 10½ inches.								

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 746-2)</small>					IA15-16		FEDERAL STOCK NO 6640-00-145-1158	
FEDERAL ITEM NAME <b>Water Bath</b>					PART OR DRAWING NO			
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD <b>IA-15</b>	CLEANING <b>C-1</b>		DRYING <b>D-4</b>	
	STEPS	DWG OR SPEC	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP								
CUSHIONING	1	PPP-F-320	Note 1 and Figure 1		SW	CF	125	DOM
CONTAINER	3	PPP-B-636	18 X 9 X 10 3/4		RSC	CF	125	DOM
DESICCANT								
CLOSURE	4	PPP-T-42				II		
BARRIER	5	MIL-B-117	32 X 21"		1	I		E
CONTAINER								
CLOSURE								
Cushioning	2	PPP-C-843	1/2"			II		B
UNIT PKG QTY <b>1</b>	UNIT PACKAGE WT <b>9</b>	UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET				
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO <b>1 of 2</b>			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <b>NOTE 2</b>								
<del>LEVEL B: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <b>NOTE 3</b>								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232. for Levels A and B.								
<p><b>FIGURES AND NOTES</b></p> <p>1. Load accessories into tank. Place lid on tank. Coil electrical cord and place at side of tank. Place fiberboard sleeve over tank. See Figure 1 for dimensions of fiberboard sleeve. Place cushioning over the top of item.</p> <p>2. Level B, Method IC-2 - follow steps 1,2,3,4,5, except use Type II, Class B, Style 1 of MIL-B-117.</p> <p>3. Commercial Packaging - package in accordance with MIL-STD-1188 with the following modifications:</p> <ul style="list-style-type: none"> <li>a. unit pack quantity shall be one (1) each.</li> <li>b. item shall be immobilized in container.</li> <li>c. container dimensions shall not exceed 18 X 9 X 10 3/4 inches (I.D.)</li> </ul>								

Appendix A--Continued  
Section 3.

**PACKAGING DATA SHEET** (Continued)  
(AMCR 746-2)

SHEET 2 OF 2 SHEETS

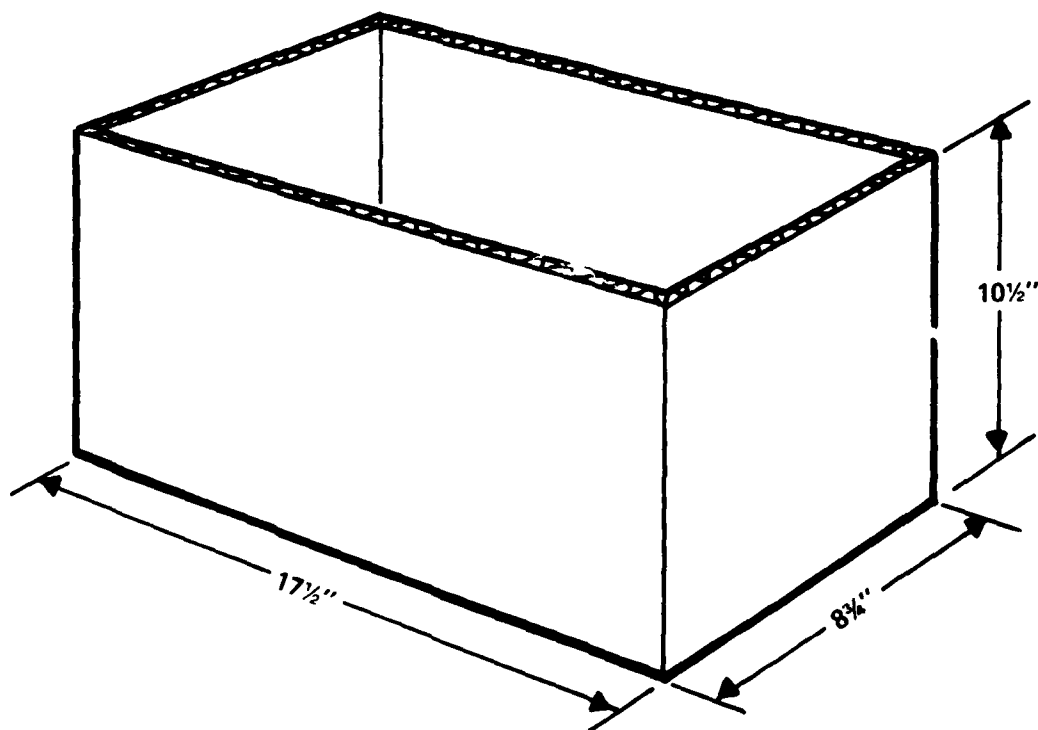


FIGURE 1. FIBERBOARD SLEEVE

PREPARING ACTIVITY	DATE
REVISION	DATE
PART OR DRAWING NO.	FEDERAL STOCK NO. 6640-00-145-1158

FEDERAL ITEM NAME

Water Bath

AMC FORM 1029-1



Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 715 A1)</small>					IIB-01		FEDERAL STOCK NO	
FEDERAL ITEM NAME				PART OR DRAWING NO				
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD II b	CLEANING C-1	DRYING D-4		
	STEPS	DWG. OR SPEC	SIZE AND NOTES		STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP	1	MIL-C-1797	1/8 inch thick-Note 1					
CUSHIONING	2	PPP-C-1120	2 inches thick-Note 2					
CONTAINER	3	PPP-B-636			RSC	CF	175	DOM
DESICCANT	4	MIL-D-3464	req'd units					
CLOSURE	5	PPP-T-42				II		
BARRIER	6	MIL-B0131	as req'd					1
CONTAINER	7	PPP-B-636			RSC	CF	W5C	WR
CLOSURE	8	PPP-T-60				III		
UNIT PKG QTY 1	UNIT PACKAGE WT		UNIT PACKAGE CUBE		UNIT PACKAGE SIZE (EXTERIOR) FEET			
INTMED PKG QTY	PREPARING ACTIVITY		DATE	REVISION	DATE	SHEET NO 1 OF 1		
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <span style="float: right;">Note 3</span>								
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <span style="float: right;">NOTE 4</span>								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232 for levels A and B								
<b>FIGURES AND NOTES</b> 1. Wrap extension cord 2. Use as pads on all sides of items 3. Level B - Method IA-14 - follow steps 1,2,3,5,6,7, and 8 of level A. 4. Commercial Packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications: a. unit pack quantity shall be one (1) each. b. unit pack container inside dimensions shall not exceed the exterior dimensions of the item by more than 2 inches.								

Appendix A--Continued  
Section 3.

<b>PACKAGING DATA SHEET</b> <small>(AMCR 746-2)</small>					<b>IIB-02</b>		<b>FEDERAL STOCK NO</b>		
<b>FEDERAL ITEM NAME</b>					<b>PART OR DRAWING NO</b>				
<b>LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116</b>	<b>ITEM CATEGORY (MIL-STD-647)</b>			<b>METHOD</b> <b>II B</b>	<b>CLEANING</b> <b>C-1</b>	<b>DRYING</b> <b>D-4</b>			
	<b>STEPS</b>	<b>DWG OR SPEC.</b>	<b>SIZE AND NOTES</b>	<b>STYLE</b>	<b>TYPE</b>	<b>GRADE</b>	<b>CLASS</b>		
PRESERVATIVE			INTERNAL						
PRESERVATIVE			EXTERNAL						
INTIMATE WRAP									
CUSHIONING	1	PPP-C-843	1/4 inch NOTE 1		II				
CONTAINER	3	PPP-B-636		RSC	CF	200	DOM		
DESICCANT	2	MIL-D-3464							
CLOSURE	4	PPP-T-42			II				
BARRIER	5	MIL-B-117		1	I		E		
CONTAINER	6	PPP-B-636		RSC	CF	W5C	WR		
CLOSURE	7	PPP-T-60			III		1		
<b>UNIT PKG QTY</b> 1	<b>UNIT PACKAGE WT</b>		<b>UNIT PACKAGE CUBE</b>		<b>UNIT PACKAGE SIZE (EXTERIOR) FEET</b>				
<b>INTMED PKG QTY</b>	<b>PREPARING ACTIVITY</b>		<b>DATE</b>	<b>REVISION</b>	<b>DATE</b>	<b>SHEET NO</b> 1 OF 1			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.									
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.									
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. <b>NOTE 2</b>									
<del>LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.</del> <b>NOTE 3</b>									
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232 for Levels A and B									
<b>FIGURES AND NOTES</b>									
1. Wrap complete item.									
2. Level B, Method IA-14 - follow steps 1, 3, 4, 5, 6, and 7 of level A.									
3. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications:									
a. unit pack quantity shall be one (1) each.									
b. the interior dimensions of the unit pack container shall not exceed the exterior dimensions of the item by more than 1/2 inch.									

## Appendix A--Continued

## Section 3.

## PACKAGING DATA SHEET

(AMCR 746-2)

IIB-03

FEDERAL STOCK NO

6650-00-122-6991

FEDERAL ITEM NAME

Flame Photometer

PART OR DRAWING NO

LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)		METHOD IIB	CLEANING C-1	DRYING D-4		
	STEPS	DWG OR SPEC	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS
PRESERVATIVE			INTERNAL				
PRESERVATIVE			EXTERNAL				
INTIMATE WRAP							
CUSHIONING							
CONTAINER	4	PPP-B-636	22½ X 21½ X 20½ (Note 2)	RSC	CF	200	DOM
DESICCANT	3	MIL-D-3464					
CLOSURE	5	PPP-T-42			II		
BARRIER	6	MIL-B-131					1
CONTAINER	7	PPP-B-636	23 x 22 x 21½	RSC	CF	V3C	WR
CLOSURE	8	PPP-T-60			III		1
Base	1	NN-P-530	Figure 1 and Note 1				
Cushioning	2	PPP-F-320	Figure 1		DW	200	DOM

UNIT PKG QTY 1	UNIT PACKAGE WT	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET				
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO	1	OF 3

INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.

SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.

LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. Note 3

LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON. Note 4

MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232 for Levels A and B.

## FIGURES AND NOTES

- Secure photometer to base with two (2) steel straps conforming to QQ-S-781, type 1, class A, 3/8 x 0.015. Place fiberboard strips under straps to protect photometer.
- Accessories shall be intermediate packed in a container conforming to PPP-B-636, style RSC, type CF, grade 200, class domestic, size 18½ x 12½ x 8 inches and placed on top of the photometer within the container (step 4). The accessories shall be preserved as follows prior to placing in the intermediate container:
  - Individually preserve the servo assembler method III as follows:
    - Wrap in barrier conforming to MIL-B-130.
    - Cushion with 1/4 inch of material conforming to PPP-C-1797. Secure wrap with tape, PPP-T-42.
    - Package in a container conforming to PPP-B-636, style RSC, type CF, grade 125, class domestic, size 5½ x 5½ x 4½ inches and close container with tape PPP-T-42.
  - Individually unit pack the chimney glasses, method III by cushioning with 1/2" of material conforming to PPP-C-1797 and unit pack in a container conforming to PPP-B-636, W5C, size 4 X 4 X 7½ inches. Close container with tape, PPP-T-60, class III.



## Appendix A--Continued

Section 3

**PACKAGING DATA SHEET (Continued)**  
(AMCR 746-2)

SHEET 2 OF 3 SHEETS

c. Nest sample caps and unit pack fifty (50) each in a container conforming to PPP-B-566. Close container with tape, PPP-T-42.

d. Individually protect all other accessories, method III by inclosing in a polyethylene bag conforming to L-P-378. Secure bag by tape, staples, or other suitable means.

3. Level B, Method IA-14. Unit pack same as Level A except desiccant (step 3) is not required.

4. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications:

a. Item shall be unit packed one (1) each as a kit.

b. The inside dimensions of the unit pack container shall not exceed the outside dimension of the item by more than one (1) inch.

c. A packing list shall be furnished.

FEDERAL ITEM NAME <b>FLAME PHOTOMETER</b>	PREPARING ACTIVITY	DATE
	REVISION	DATE
	PART OR DRAWING NO.	FEDERAL STOCK NO. <b>6650-00-122-6991</b>

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET (Continued)  
(AMCR 746-2)

SHEET 3 OF 3 SHEETS

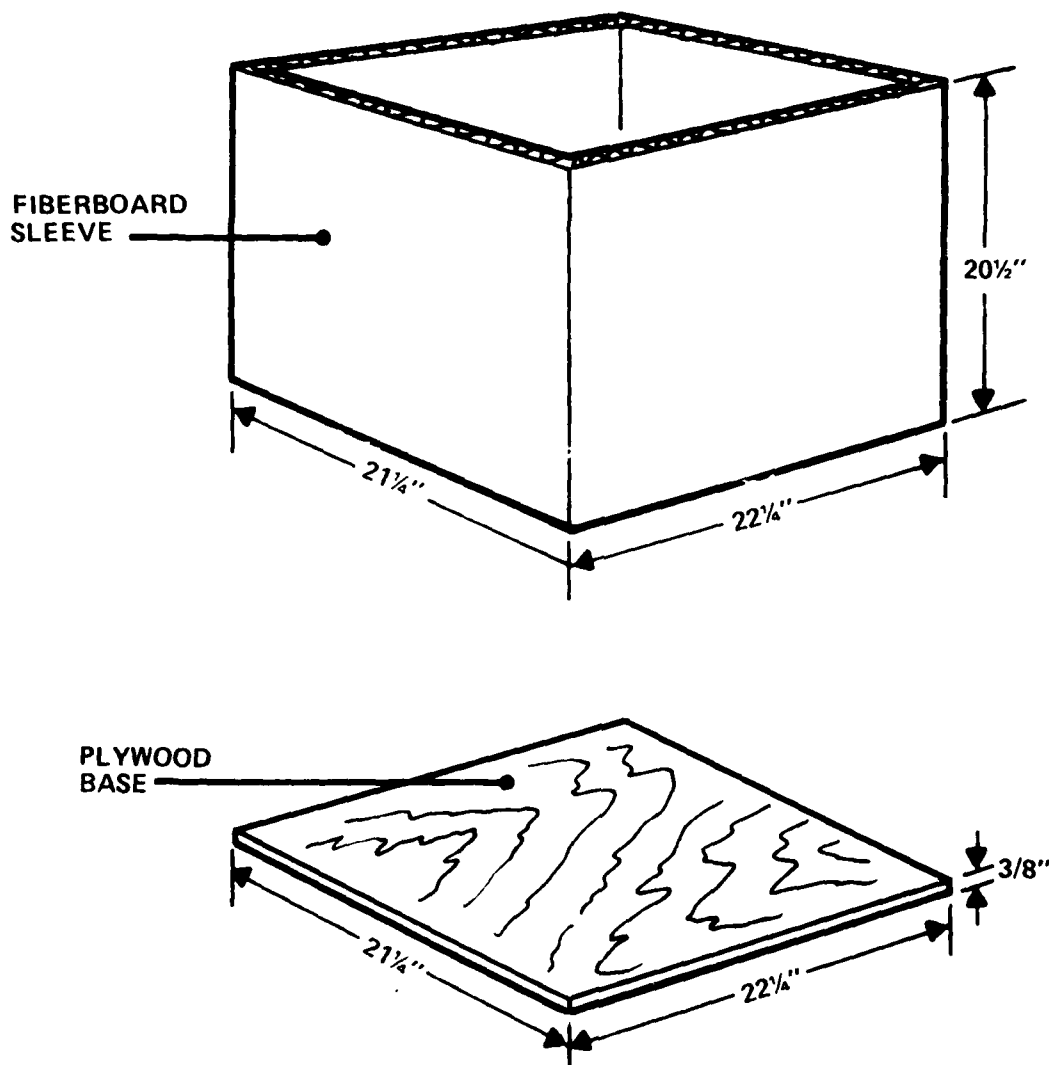


FIGURE 1

PREPARING ACTIVITY	DATE
REVISION	DATE
PART OR DRAWING NO.	FEDERAL STOCK NO. 6650-00-122-6991

FEDERAL ITEM NAME  
FLAME PHOTOMETER

AMC FORM 1029-1

6665-00-682-4765

(AMCR 746-2)

**PREVIOUS EDITIONS ARE OBSOLETE**

Appendix A--Continued  
Section 3.

PACKAGING DATA SHEET <small>(AMCR 715 AB)</small>					IIE-01		FEDERAL STOCK NO	
FEDERAL ITEM NAME				PART OR DRAWING NO				
LEVEL A UNIT PACKAGE REQUIREMENTS MIL-P-116	ITEM CATEGORY (MIL-STD-647)			METHOD II e	CLEANING C-1	DRYING D-4		
	STEPS	DWG OR SPEC	SIZE AND NOTES	STYLE	TYPE	GRADE	CLASS	
PRESERVATIVE			INTERNAL					
PRESERVATIVE			EXTERNAL					
INTIMATE WRAP								
CUSHIONING	1	PPP-C-1797	1/8 inch thick-Note 1					
CONTAINER	3	PPP-B-636	Note 2	RSC	CF	125	DOM	
DESICCANT	2	MIL-D-3464						
CLOSURE	4	PPP-T-42			II			
BARRIER	5	MIL-B-117		I	I		E	
CONTAINER								
CLOSURE								
UNIT PKG QTY 1	UNIT PACKAGE WT	UNIT PACKAGE CUBE	UNIT PACKAGE SIZE (EXTERIOR) FEET 11 3/4 X 8 3/4 X 9					
INTMED PKG QTY	PREPARING ACTIVITY	DATE	REVISION	DATE	SHEET NO 1 of 1			
INTERMEDIATE PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON.								
SPECIFICATIONS, STANDARDS, AND DRAWINGS LISTED HEREON OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID FORM A PART OF THIS DATA SHEET. MEASUREMENTS ARE MAXIMUM PERMISSIBLE. THE APPLICABLE GENERAL AND REFERENCED REQUIREMENTS OF SPECIFICATION MIL-P-14232 FORM PART OF THIS DATA SHEET.								
LEVEL B: UNIT PACKAGE THE SAME AS LEVEL A OR AS OTHERWISE SPECIFIED HEREON. NOTE 3								
LEVEL C: PACKAGING AND PACKING WILL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-14232 OR AS OTHERWISE SPECIFIED HEREON. NOTE 4								
MARKING WILL BE IN ACCORDANCE WITH MIL-STD-129/MIL-P-14232 for levels A and B.								
<b>FIGURES AND NOTES</b> 1. Completely wrap item and secure wrap with tape (PPP-T-42) 2. Inclose manual within container. 3. Level B - Method 1A-15 - <span style="float: right;">Follow steps 1,3,4, and 5 of Level A.</span> 4. Commercial packaging - item shall be packaged and marked in accordance with MIL-STD-1188 with the following modifications: a. unit pack quantity shall be one (1) each. b. unit pack container inside dimensions shall not exceed the exterior dimensions of the item by more than 1/4 inch.								

6630-00-143-6763

(AMCR 715 68)

PART OR DRAWING NO

CLASS	
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1 of 3

AMC FORM 1030

**PACKAGING DATA SHEET (Continued)**  
(AMCR 746-2)

SHEET 2 OF 3 SHEETS

- c. Support Base. Unit pack two (2) each method III as follows:
- (1) Individually wrap each base in paper, UU-P-268, type 1. Secure wrap with tape, PPP-T-42, type II.
  - (2) Pack in a fiberboard box, PPP-B-636, style RSC, grade W5C, size 9 1/2 x 9 1/2 x 2 3/4-inches.
  - (3) Close box with tape, PPP-T-60, type IV.
- d. Assembly, Regulator, Yoke. Unit pack method 1A-8 as follows:
- (1) Individually wrap the assembly with cushioning conforming to PPP-C-843. Secure wrap with tape, PPP-T-42, type IV.
  - (2) Individually package the assembly by enclosing in a bag, MIL-B-117, style 1 or 2, type II, class E. The bag shall be heat sealed.
  - (3) Intermediate package two (2) assemblies in a box, PPP-B-636, style RSC, grade W5C, size 7 1/2 x 5 x 2 3/4-inches.
  - (4) Close box with tape, RPP-60, type IV.
- e. Electrodes. Unit pack method 1A-8 as follows:
- (1) Individually wrap each electrode with cushioning, PPP-C-843. Secure wrap with tape, PPP-T-42, type IV.
  - (2) Individually package each electrode method 1A-8 by enclosing in a bag, MIL-B-117 style 1 or 2, type II, class E. The bag shall be heat sealed.
  - (3) Intermediate package the three (3) electrodes in a box, PPP-B-636, style RSC, grade W6C, size 11 3/4 x 4 3/4 x 7 1/2-inches.
  - (4) Close box with tape, PPP-T-60, class IV.
- f. Stopcock grease tes resistor and membrane kits. Unit pack together in a box, PPP-B-566, style I, size 7 1/2 x 4 x 2-inches. Close box with tape, PPP-T-60, type IV.

2. Level B.

- a. Blood, Gas, Analyzer. Unit pack method 1A-15 by applying steps (1), (3) and (4) of level A.
- b. Water Bath. Unit pack method 1A-15 by applying steps (1), (3) and (4) of level A.
- c. Support Base. Same as level A.
- d. Assembly, Regulator, Yoke. Same as level A.
- e. Electrodes. Same as level A.
- f. Stopcock Grease test resistor and membrane kits. Same as level A.

FEDERAL ITEM NAME Blood Gas Analyzer	PREPARING ACTIVITY	DATE
	REVISION	DATE
	PART OR DRAWING NO.	FEDERAL STOCK NO. 6630-00-143-6763

Appendix A--Continued  
Section 3.

**PACKAGING DATA SHEET (Continued)**  
(AMCR 746-2)

SHEET 3 OF 3 SHEETS

3. The following components of the blood, gas analyzer require special storage and should not be packed in the shelter.

- a. Cylinder, gas. P/N 50100
- b. Cylinder, Balance Nitrogen, P/N 55210
- c. Cylinder, Balance Nitrogen, P/N 55220
- d. Bottle, Electrolyte, P/N 33010
- e. Bottle, Electrolyte, P/N 33020
- f. Bottle, Buffer, P/N 31060
- g. Bottle, Buffer, P/N 31070
- h. Bottle, Cleaner, PH Electrode
- i. Potassium Chloride, P/N 34020
- j. Anti-foam-silicone, P/N 34001
- k. Bath cleaner, P/N 3430

FEDERAL ITEM NAME Blood Gas Analyzer	PREPARING ACTIVITY	DATE
	REVISION	DATE
	PART OR DRAWING NO.	FEDERAL STOCK NO. 6630-00-143-6763

Appendix A

Section 4.

PACKING LIST WITH LOADING PLANS



BUILD MATERIAL LISTING											Page 1 of 9	
FSN	NOMENCLATURE	TOT CON	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG	
PHARMACY --	6545-00-999-6451									LOCATION		
4110-00-113-8334	REFRIGERATOR			EA			1			18		
6530-00-027-5335	TABLE SUR			EA			2			NIC		
6530-00-115-2991	STOOL STR CRM			EA			2			21		
6530-00-299-8545	STOOL STR STL			EA			1			23		
6530-00-421-4768	CABINET PH			EA			6			2 thru 7		
6530-00-421-4769	CABINET PH			EA			10			8 thru 17		
6530-00-421-7831	CABINET PH			EA			1			1		
6545-00-027-5013	SINK CAB SURG			EA			1			NIC		
6640-00-C70-0001	DISTILL AP 5 GAL			EA			1			NIC		
6640-00-165-6840	STAND FLASK RACK PH			EA			1			30		
6640-00-406-3646	RACK FLASK PH MTL			EA			11			24		
6640-00-406-3647	RACK CARBOY PH MTL			EA			1			29		
6670-00-119-4623	BALANCE TORSION			EA			1			4		
7125-00-707-3041	SHELF CROME			EA			2			NIC		
6505-00-050-4567	PSYLLIUM HYDRO			CN			4			1		
6505-00-106-0875	AMMONIA 1/3 ML			PG			10			1		
6505-00-133-5800	PETROLATUM 1/2 OZ			PG			12			1		

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1 Sep 75

BUILD MATERIAL LISTING											Page 2 of 9	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG
6505-00-133-8025	PETROLATUM WHITE				CN			3			1	
6505-00-136-7000	POTASSIUM IODIDE				BT			1			1	
6505-00-138-4150	PROPYLENE GLYCOL				BT			1			1	
6505-00-147-0000	TALC USP				CN			2			4	
6505-00-153-8443	LACTOSE USP				BT			1			1	
6505-00-656-1468	SENNA POD EX TAB				BT			5			1	
6505-00-890-1657	KAO IN-PECT MIX				BT			4			1	
6505-01-008-3054	UNDECYLENIC POWDR				CN			24			1	
6510-00-201-4000	COTTON PURIFIED				PG			1			3	
6510-00-202-4000	GAUZE AB				PG			2			3	
6530-00-042-8421	BOTTLE SAFCAP				PG			1			2	
6530-00-042-8441	BOTTLE PRE LUG				PG			1			2	
6530-00-042-8443	BOTTLE PRES LUG				PG			1			3	
6530-00-042-8472	BOTTLE PRES LUG				PG			1			3	
6530-00-406-0240	BOTTLE SCRCAP				PG			1			3	
6530-00-111-6354	BOTTLE SAFCAP				PG			2			7	
6530-00-111-6356	BOTTLE SAFCAP				PG			1			7	

BUILD MATERIAL LISTING											Page 3 of 9
FSN	NOMENCLATURE	TOT CON	WT	CU W/I	TYP CON	CON NO	QTY REQD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG
6530-00-113-3724	CAP STOR BTL DIS			PG			3			4	
6530-00-404-7700	BOTTLE DROP			BX			4			2	
6530-00-430-5400	JAR OINT			BX			2			2	
6530-00-772-5935	BRUSH SURGICAL SCRUB			EA			1			2	
6530-00-935-4136	BOTTLE FL 1000 ML			PG			12			1	
6640-00-010-8363	BOTTLE SCREW CAP			EA			3			4	
6640-00-022-2935	FILTER FLUID PRESSURE			EA			6			6	
6640-00-063-7872	FUNNEL LAB BIN DIA			EA			1			1	
6640-00-127-0129	ROD STIRRING			EA			1			2	
6640-00-350-6343	FUNNEL COM LAB			EA			1			1	
6640-00-418-0000	CLAMP SHUTOFF			EA			2			2	
6640-00-418-6582	MORTAR & PESTLE			EA			1			3	
6640-00-419-7000	CYLINDER GRAD 10ML			EA			1			4	
6640-00-436-0000	PAPER 185 MM			PG			1			4	
6640-00-439-7350	SPATULA 3 IN BLADE			EA			2			4	
6640-00-439-7367	SPATULA HARD RUBB			EA			1			4	

BUILD MATERIAL LISTING													Page 4 of 9	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY REQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG		
6640-00-440-1200	STAND LAB 6x9 IN				EA			1			5			
6640-00-440-1315	RING SUPPORT 3 IN				EA			1			4			
6640-00-846-1355	BEAKER LAB CRS				EA			1						
6640-00-889-7083	GRADUATE LIQUID 125MM				EA			2			6			
6640-00-889-7085	GRADUATE LIQ LAB				EA			1			6			
6640-00-889-7088	CYLINDER GRAD 50ML				EA			1			6			
6640-00-926-1305	MORTAR PESTLE 150ML				EA			1			3			
6640-00-942-4393	BEAKER LAB GL 250ML				EA			1			6			
6640-00-982-1289	BEAKER LAB POLYP				EA			1			6			
6640-00-982-1291	BEAKER LAB POL				EA			1			6			
6670-00-401-8850	WEIGHT BALANCE				SE			1			6			
6810-00-234-8370	SODIUM CHLORID				BT			3			1			
7240-00-023-8570	PAIL UTILITY 14QT				EA			2			19			
5110-00-161-6909	SHEARS STR TRIMMER				EA			2			2			
5120-00-540-7155	PUNCH 2 HOLE PRESCRIP				EA			1			4			
6230-00-498-9408	LANTERN ELEC CASE STL				EA			1			2			
6240-00-155-8681	LAMP INCANDESCENT				EA			1			2			

BUILD MATERIAL LISTING											Page 5 of 9	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG
6640-00-171-5198	SPATULA LAB 4IN BLADE				EA			1			2	
6640-00-264-8285	SPATULA LAB 12INGSA				EA			1			2	
6640-00-883-5488	PAPER FILTER				HD			1			2	
7330-00-272-2591	OPENER CAN				EA			1			2	
7330-00-680-2636	SCRAPER RUB 3IN BLADE				EA			1			2	
7330-00-849-5194	SPATULA RUBBER				EA			1			2	
7340-00-223-7769	KNIFE 7IN LG				EA			1			2	
7510-00-161-4277	FASTENERS BRASS 1IN				HD			1			2	
7510-00-161-4292	CLIP PAPER LG SIZE				MX			1			2	
7510-00-161-6217	RULER WOOD 18 IN				EA			1			2	
7510-00-240-1526	PENCIL BLACK				DZ			2			2	
7510-00-926-4826	TAPE MASKING PRES SEN				RO			1			2	
7510-00-272-9662	STAPLE PAPER FASTENER				BX			1			2	
7510-00-281-5234	PENCIL NO 2 MED SOFT				DZ			1			2	
7510-00-526-1741	INK PAD RUBBER STAMP				EA			1			2	
7510-00-551-3214	INK STAMP PAD BL				DZ			1			2	

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BUILD MATERIAL LISTING													Page 6 of 9	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG		
7510-00-551-9818	TAPE PRES SENS ADH				RO			1			2			
7520-00-162-6156	STAND CALENDAR PAD				EA			1			2			
7520-00-162-7109	STAMP NUMBER MACH				EA			4			4			
7520-00-240-2408	DISPENSER TAPE				EA			1			2			
7520-00-281-5895	STAPLER PAPER FAST- ENER				EA			1			2			
7520-00-286-5792	RUBBER STAMP 2				EA			1			2			
7520-00-558-1501	MARKER FELT TIP ASSOR				SE			2			2			
7530-00-285-3083	PAD WRIT				DZ			1			2			
7530-00-286-6210	BOOK MEMO RULE				EA			1			2			
7920-00-292-4368	BRUSH BOTTLE BURET				EA			1			2			
7920-00-409-5500	BRUSH TEST TUBE				EA			1			2			
7920-00-633-9929	SPONGE CELLULOSE				EA			3			4			
7920-00-721-8884	KIMWIPES TYPE 900S				BX			1			37			
7930-00-558-1111	DETERGENT SURGICAL				CN			1			2			
8540-00-262-7178	TOWEL PAPER				BX			1			35			

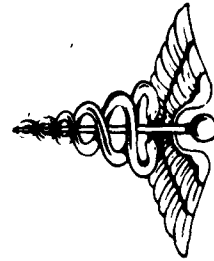
BUILD MATERIAL LISTING											Page 7 of 9	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY REQD	LOT OR CONT NO	MOD OF CONT NO	LOCATION	DATE MFG
BASIC ISSUE ITEMS FOR SHELTER - PACK WITH PHARMACY												
4030-00-541-4048	DRIVING HEAD				EA			1			26	
4030-00-972-2670	GROUND ANCHOR ASSY				EA			14			26	
4730-00-042-4270	HOSE, DUAL, WATER				EA			1			38	
4720-00-574-7902	HOSE, VACUUM				EA			1			33	
4730-00-080-3382	DRAIN HOSE				EA			1			28	
5120-00-134-4725	HOLDING HANDLE				EA			1			26	
5120-00-970-6412	DRIVING ROD				EA			1			26	
5340-00-042-8664	STRAP ASSY				EA			4			NIC	
5410-00-018-7338	WEB NET ASSY				EA			1			NIC	
5410-00-018-7541	ROPE NET ASSY				EA			1			NIC	
5410-00-022-2653	AIR DUCT ASSY				EA			2			19	
5410-00-022-2669	JACK ASSY				EA			4			NIC	
5410-00-022-2670	SUPPORT ASSY				EA			4			30	
5410-00-022-2671	JACK ASSY				EA			4			NIC	
5410-00-022-2673	PLENUM ASSY				EA			1			34	
5410-00-118-1234	BELLOWS ASSY				EA			1			31	

Appendix A-1-Continued

BUILD MATERIAL LISTING											Page 8 of 9	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG
5410-00-434-6201	AIRLOCK ASSY C/O DOOR ASSY, 3 BOW ASSY W/14 ROPES AND 14 SLIPS				EA			1			29	
5410-00-434-6301	BASE PLATE (JACK)				EA			4			36	
5410-00-440-9971	FLANGE ASSY				EA			2			34	
5410-00-455-9319	AIRLOCK ADAPTER				EA			1			22	
5410-00-466-7429	TREAD PLATE, UPPER				EA			1			32	
5410-00-466-7438	TREAD PLATE, LOWER				EA			1			32	
5410-00-807-5811	ADAPTER, DUCT				EA			2			20	
6150-00-467-2541	CABLE, 60 HZ				EA			1			NIC	
6150-00-836-8595	CABLE, 400 HZ				EA			1			NIC	
6210-00-473-9834	LIGHT ASSY, AIRLOCK W/25 FT CABLE				EA			1			29	
8340-00-823-7451	TENT PIN				EA			8			26	
8430-00-935-6627	SPIKE, BOW				EA			10			26	
7510-00-889-3494	LOG BOOK				EA			1			NIC	

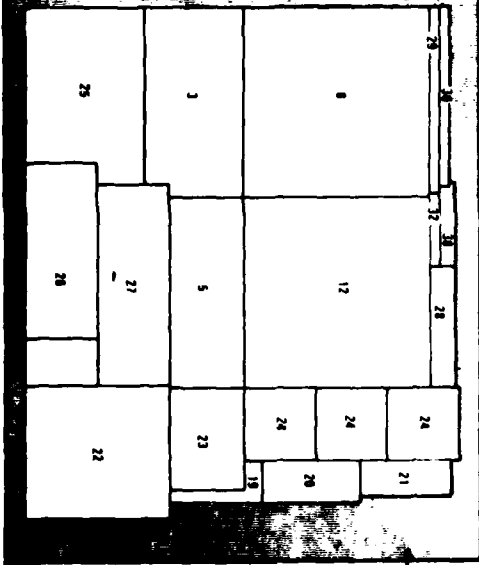


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FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG
	MANUALS				EA			1			NIC	
LEGEND FOR LOCATION:												
NIC: NOT IN CABINET OR PACKAGE - ITEMS ARE INSTALLED OR SECURED WITHIN SHELTER WITHOUT A CONTAINER.												



Appendix A--Continued  
Section 4.

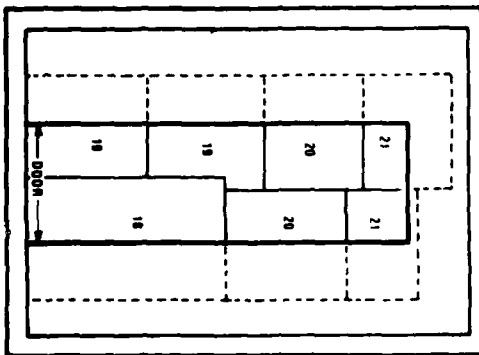
LEFT SIDE VIEW



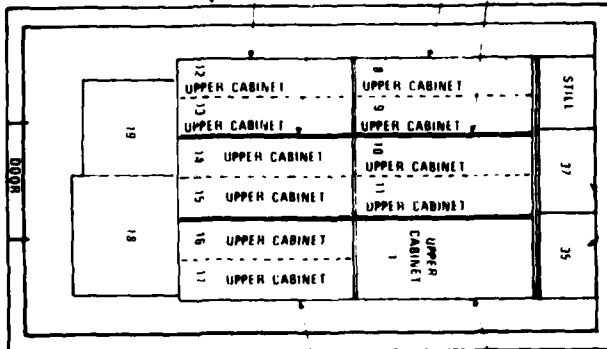
LEFT SIDE

- LOWER CABINET 2
- LOWER CABINET 1
- LOWER CABINET 3
- LOWER CABINET 5

FRONT VIEW



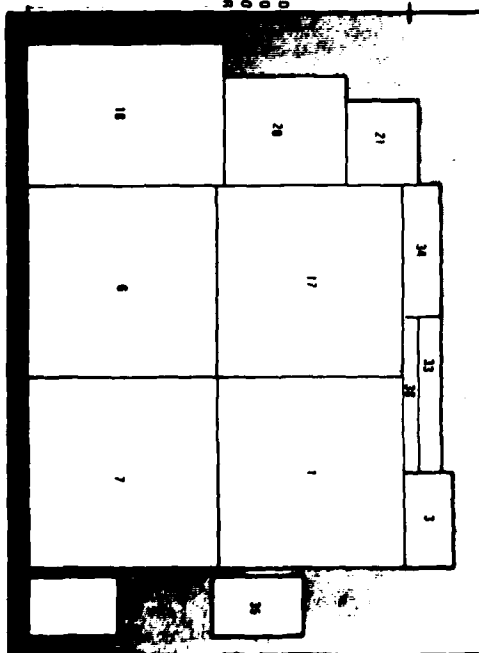
TOP VIEW



RIGHT SIDE

- 7 LOWER CABINET
- 6 LOWER CABINET

RIGHT SIDE VIEW



LOADING PLAN  
PHARMACY  
NSN 6545-00-999-6451

BUILD MATERIAL LISTING												Page 1 of 18	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG	
CLINICAL LABORATORY	6545-00-999-6448										LOCATION		
6645-00-250-4680	STOP WATCH TYPE B				EA			1			7		
6650-00-526-7785	MICROSCOPE OPTICAL				EA			2			16		
4110-00-113-8334	REFRIGERATOR				EA			2			13 & 14		
4310-00-035-1557	VACUUM PUMP POWER DR				EA			1			11		
4610-00-782-5867	DEMINEALIZER WATER				EA			1			31		
6530-00-019-9079	CABINET SUR INS DRES				EA			2			1 & 2		
6530-00-019-9257	CABINET SUR INS DRES				EA			2			3 & 4		
6530-00-027-5261	STERILIZER 16X36				EA			1			12		
6530-00-113-1491	TRAY INST				EA			1			2		
6530-00-113-1492	TRAY INST				EA			7			2		
6530-00-115-2991	STOOL STR CRM 25 IN				EA			5			27		
6530-00-935-9836	CABINET SUR				EA			7			5 thru 11		
6530-00-935-9851	TABLE SURG INST & DR				EA			2			22		
6545-00-019-9330	SINK SERVICE CLIN LAB				EA			1			15		
6545-00-027-5009	SINK CLINICAL LAB				EA			2			16		
6630-00-087-1838	COMPARATOR COLOR CHILD				EA			1			5		

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BUILD MATERIAL LISTING													Page 2 of 18
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG	
6630-00-105-8648	METER HYDRD ION TEST					EA		1			1		
6630-00-418-8016	COUNTER BLOOD CELLS					EA		1			11		
6640-00-113-8336	STIRRER HOT PLT					EA		1			11		
6640-00-135-9644	SHAKING MACHINE					EA		1			11		
6640-00-145-1158	WATER BATH ELEC					EA		2			13 & 14		
6640-00-145-1180	CENTRIFUGE LAB					EA		1			1		
6640-00-299-8693	SHAKING MACHINE					EA		1			11		
6640-00-299-9835	CENTRIFUGE LAB MICRO					EA		1			1		
6640-00-435-7220	OVEN LAB DRYING MEDU					EA		1			17		
6640-00-930-9034	CENTRIFUGE LAB SMALL					EA		1			1		
6640-01-031-6986	DILUTING MACH LAB					EA		1					
6650-00-144-4555	SPECTROPHOTOMETER ELE					EA		1					
6650-00-428-7050	LIGHT MICRO SENIOR					EA		2			1		
6650-00-933-3218	REFRACTOMETER HAND					EA		1			11		
6650-01-026-8333	PHOTOMETER FLAME AUTO					EA		1			28		
6670-00-119-4623	BALANCE TORSION 120CM					EA		1			10		
6670-00-401-3005	BALANCE ANALY CHAIN T					EA		1					

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BUILD MATERIAL LISTING												Page 3 of 18
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG
6670-00-401-8800	WEIGHT BAL ANALYT				SE			1			LOCATION 5	
6630-00-143-6763	BLOOD, GAS, APP				EA			1	2		16	
6506-00-110-6640	BORIC ACID 1 LB				BT			1			7	
6506-00-136-7000	POTASSIUM IODIDE 1LB				BT			1			5	
6505-00-146-4875	SULFOSALIC ACID 1/4 LB				BT			1			6	
6505-00-153-8708	SOD CHLORI 25GM				BT			1			7	
6510-00-201-4000	COTTON PURIFIED 1LB				PG			2			5	
6510-00-782-2700	SPONGE SURGICAL				PG			4			6	
6515-00-149-1405	THERMOMETER CLIN ORAL				EA			2			6	
6515-00-303-8100	APPLI WD				PG			1			8	
6515-00-311-9350	BTL INFU KELLY 700 ML				EA			1			5	
6515-00-334-3800	FORCEPS HEMO				EA			1			6	
6515-00-344-7800	HNDL SURG KNIFE NO3				EA			2			6	
6515-00-349-2400	NEEDLE HYP 18GAL				BX			1			5	
6515-00-349-3400	NEEDLE HYP 20 GA				BX			1			6	
6515-00-349-5400	NEEDLE HYPO 23 GA				BX			1			6	
6515-00-363-8840	SCISSOR BAND				EA			2			5	

BUILD MATERIAL LISTING													Page 4 of 18
FSN	NOMENCLATURE	TOT CON	CU	WT	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG	
6515-00-371-3100	SPYGMOMANOMETER ANER					EA		1			6		
6515-00-374-2220	STETHOSCOPE COMBTYP					EA		1			5		
6515-00-404-2360	TUBE HYPO NOL					BX		4			6		
6515-00-431-2890	LANCET FINGER 100S					PG		6			6		
6515-00-584-2925	HOLDER BLD COL DISP					EA		5			6		
6515-00-584-2926	BALANCE BLD COL DISP					EA		1			1		
6515-00-660-0010	BLADE KNIFE NO 11	PG				PG		8			6		
6516-00-754-0412	SYR HYP DIS 10ML					PG		1			6		
6515-00-754-2836	MDL HYP DISP					BX		1			6		
6515-00-890-1797	BARREL LUER SYR 10ML					PG		2			8		
6515-00-890-1798	BARREL LUER SYR 20ML					PG		1			8		
6515-00-890-1802	PLUNGE LUER SYR 10ML					PG		4			8		
6515-00-890-1803	PLUNGE LUER SYR 20ML					PG		2			8		
6515-00-926-9201	CONNECT SUR TUBIN					BX		1			8		
6515-00-985-7218	BARREL LUER 1ML					PG		1			8		
6515-00-985-7218	PLUNGER LUER 1ML					PG		2			8		
6515-01-003-2369	NEEDLE HYPO					PG		1			5		

BUILD MATERIAL LISTING											Page 5 of 18	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG
6515-01-017-2177	APPLICATOR DISP				PG			1			6	
6520-00-516-6150	CLAY MODELING 1LB				PG			1			7	
6530-00-080-0040	BOTTLE URI SPECI				BX			1			9 & 10	
6530-00-080-0049	CAP SNAP ON DIS				BX			1			9	
6530-00-111-6351	BOTTLE SAFCAP 20Z				PG			1			6	
6530-00-772-5935	BRUSH SURGICAL SCRUB				EA			2			7	
6530-00-837-7472	CUP SPEC PLAS				PG			1			6	
6630-00-165-5734	DISK COLOR STANDARDS				EA			1			7	
6630-00-299-9832	URINOMETER MICRO TYE				EA			2			6	
6630-00-299-9834	VIEW BOX BLOOD TP				EA			1			4	
6630-00-299-9837	TUBE CAPILLARY				PG			1			6	
6630-00-299-9838	BULB CAPILLARY 100S				PG			1			6	
6630-00-404-2220	HOLDER BLD COLL 12S				PG			2			6	
6630-00-427-6850	CHAMBER COUNT HEMACY				EA			4			6	
6630-00-442-8000	TEST COLOR CH DISPEN				EA			2			7	
6630-00-442-9005	TEST PAP COLOR DISP				EA			2			7	
6630-00-585-1378	READER MICRO HEM SHIR				EA			1			6	
6630-00-585-1522	TUBE CAP BL 90 MM.				PG			1			5	

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FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG
6530-00-618-0072	TUBE CAP BLD 1.55MM				PG			1			LOCATION 5	
6630-00-618-0073	TUBE CAP BLOOD 10D				PG			2			5	
6640-00-010-8357	BEAKER LAB DISP 100S				PG			1			7	
6640-00-010-8358	RACK TEST TUBE LAB				EA			1			9	
6640-00-010-8360	FLASK ERLLEN 50ML				EA			6			7	
6640-00-010-8361	FLASK ERLLEN 250ML				EA			2			7	
6640-00-010-8362	FLASK ERLLEN 1000ML				EA			2			7	
6640-00-010-8363	BOTTLE SCRES CAP				EA			2			5	
6640-00-052-1281	PIPET BLOOD CHEM 1ML				EA			12			7	
6640-00-052-1282	PIPET BLOOD CHEM 2 ML				EA			12			7	
6640-00-054-1879	PIPET SEROLOGIC 0.2ML				EA			24			7	
6640-00-054-1880	PIPET SEROLOGIC 1ML				EA			24			7	
6640-00-059-7164	PIPET SEROLOGIC 10ML				EA			24			7	
6640-00-059-7165	PIPET SEROLOGIC 5 ML				EA			48			7	
6640-00-127-0129	ROD STIRRING 10 IN LG				EA			1			7	
6640-00-127-0130	ROD STIRRING 6 IN LG				EA			1			7	
6640-00-127-0134	PIPET VOLUMETRIC 12				PG			1			7	



BUILD MATERIAL LISTING											
											Page 7 of 18
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG LOCATION
6640-00-127-0135	PIPET VOLUMETRIC 125				PG			1			7
6640-00-127-0136	PIPET VOLUMETRIC 125				PG			1			7
6640-00-144-4549	CUVETTE				PG			1			7
6640-00-145-1179	BLOCK EMBEDDING 200S				PG			1			7
6640-00-165-5726	RACK TEST TUBE 40TUBE				EA			6			7
6640-00-247-3821	DESICCATOR 250MM				EA			1			1
6640-00-247-3831	PLATE DESICCATOR 230MM				EA			1			7
6640-00-299-8479	BASKET TEST TU				EA			3			32
6640-00-299-8490	RACK TEST TUBE 90TUBE				EA			2			7
6640-00-299-8493	WASH BOTTLE LAB				EA			4			7
6640-00-299-8691	HOLDER MICRO FILT DISK				EA			1			9
6640-00-299-8692	DISK FILT 47MM				PG			1			9
6640-00-299-9807	IMMERSION OIL 10Z				BT			2			9
6640-00-299-9833	CALCULATOR BLOOD SED				EA			1			6
6640-00-402-9250	PAN STAINING RECTANG				EA			1			6
6640-00-408-2200	BOTTLE SPEC RND 9MI				EA			6			9
6640-00-408-9150	BOTTLE SCR CAP 84MI				PG			1			5

Appendix A - Continued

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BUILD MATERIAL LISTING												Page 8 of 18
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG LOCATION	DATE MFG
6640-00-414-2000	TUBE CB GRAD 15ML				PG			1			7	
6640-00-414-3000	TUBE CB UNGR 15ML				PG			1			7	
6640-00-417-6000	CLAMP UTILITY 9 IN				EA			1			7	
6640-00-418-0000	CLAMP SHUTOFF				EA			6			7	
6640-00-424-8000	FLASK FILTERING 500ML				EA			1			8	
6640-00-425-4000	FLASK VOL BORD 25ML				EA			3			7	
6640-00-425-5000	FLASK VOL BORD 50ML				EA			3			7	
6640-00-425-6000	FLASK VOL BORD 100ML				EA			3			7	
6640-00-425-7000	FLASK VOL BORD 250ML				EA			2			7	
6640-00-425-8000	FLASK VOL BORD 500ML				EA			2			7	
6640-00-425-9000	FLASK VOL BORD 1000ML				EA			1			32	
6640-00-426-0300	FORCEPS MICRO COVER GL				EA			1			9	
6640-00-427-6875	COVER GLASS MICROSCOP				EA			2			7	
6640-00-428-5000	HOLDER NEEDLE DISSECT				EA			1			9	
6640-00-428-6000	HOLDER NEEDLE KOLLE				EA			2			9	
6640-00-430-1000	JAR STAINING COPLIN				EA			3			9	
6640-00-435-7650	PAPER FILTER 100S				PG			1			7	

BUILD MATERIAL LISTING											
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY REQD	LOT OR CONT NO	MOD OF CONT NO	MFG LOCATION
6640-00-435-8000	PAPER FILT QUAL 90MM				PG			1			7
6640-00-436-1000	PAPER 25D MM100S				PG			1			7
6640-00-436-3000	PAPER 110 MM 100S				PG			2			7
6640-00-436-5000	PAPER LENS IREAM				PG			1			9
6640-00-436-5300	PIPET BLOOD 0.2ML				EA			12			7
6640-00-437-0050	PIPET OSTWALD FOLIN				EA			12			7
6640-00-437-7960	PIPET VOLUMET 1ML				EA			12			7
6640-00-437-8000	PIPET VOLUMET 5ML				EA			12			7
6640-00-437-9000	PIPET VOLUMET 10ML				EA			6			7
6640-00-439-0400	RULE LAB 6 IN				EA			6			9
6640-00-439-7350	SPATULA 3 IN BLADE				EA			2			10
6640-00-439-8440	CUVETTE				BX			2			10
6640-00-440-1200	STAND LAB				EA			2			1
6640-00-441-2000	STOPPER BTL RUB NO00				EA			6			7
6640-00-441-3000	STOPPER RUB SOLID NO 0				EA			6			7
6640-00-441-4000	STOPPER RUB SOLID NO 1				EA			6			7
6640-00-441-5000	STOPPER RUB SOLID NO 2				EA			6			7

BUILD MATERIAL LISTING											Page 10 of 18	
FSN	NOMENCLATURE	TOT CON	WT	CU U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG LOCATION	DATE MFG	
6640-00-443-3450	TEST TUBE 12/75MM				PG		10			11		
6640-00-443-3750	TEST TUBE 13X100M				PG		6			11		
6640-00-443-3775	TEST TUBE GLASS STOPP				EA		12			7		
6640-00-443-4950	TEST TU 16X150MM				PG		18			9		
6640-00-444-8000	TONGS CRUCIBLE 9IN				EA		1			7		
6640-00-445-1000	TRIPOD IRON				EA		1			7		
6640-00-445-9250	GLASS TUBING 25S				PG		1			3		
6640-00-447-3625	BASKET PIPET STEEL				EA		1			32		
6640-00-542-0500	MORTAR & PESTLE GLASS				EA		1			7		
6640-00-604-1102	TEST TUBE 16X125MM				PG		1					
6640-00-618-0066	COVER GLASS 22MM				PG		2			9		
6640-00-684-1345	BOX MICRO PL 25 SLIDE				EA		4			9		
6640-00-719-7216	PIPET SEROLOGI 0.1ML				EA		18			9		
6640-00-725-7843	CONNECTOR 5/16 OD				PG		1			7		
6640-00-782-6015	BASKET PIPET PLASTIC				EA		1			32		
6640-00-889-1594	BOX SHIP HISTO SPECI				EA		6			5		
6640-00-889-1712	FILLER PIPET RUB				EA		1			8		

BUILD MATERIAL LISTING													Page 11 of 18	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG LOCATION	DATE MFG		
6640-00-889-7022	FUNNEL COM LAB 55MM				EA			6			7			
6640-00-889-7023	FUNNEL COM LAB 100MM				EA			2			7			
6640-00-889-7087	CYLINDER GRAD 25ML				EA			3			7			
6640-00-889-7089	CYLINDER GRAD LAB 100				EA			2			7			
6640-00-889-7092	CYLINDER GRAD 1000ML				EA			2			32			
6640-00-890-0880	BEAKER LAB 50ML				EA			10			7			
6640-00-926-7673	WASHER PIPET AUTO SGL				EA			1			3			
6640-00-926-7776	CUVETTE SPECTROPHOTO				EA			2			8			
6640-00-926-8998	BOTTLE SCRES CAP 4 OZ				EA			10			8			
6640-00-933-8868	BURNER GAS 4 1/2 IN				EA			2			8			
6640-00-935-1122	STOPPER SET OF 33				PG			1			8			
6640-00-935-1383	PIPET SEROL DILUTING				EA			24			8			
6640-00-935-1407	PIPET RED CORPUSCLE				EA			12			8			
6640-00-935-1410	PIPET WHITE CORPUSCLE				EA			12			8			
6640-00-935-4069	BOTTLE SC CP 8 OZ				PG			1			6			
6640-00-935-4070	BOTTLE SC CP 16 OZ				PG			1			11			
6640-00-935-4071	BOTTLE SC CP 32 OZ				PG			1			11			

BUILD MATERIAL LISTING											Page 12 of 18	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OR CONT NO	MFG	DATE MFG
6640-00-935-4268	FLASK GRADUATE 135ML				EA			6			LOCATION 8	
6640-00-935-4269	FLASK GRADUATE 250 ML				EA			4			8	
6640-00-935-4270	FLASK GRADUATE 500ML				EA			3			8	
6640-00-935-4271	FLASK GRADUATE 4000ML				EA			4			1	
6640-00-935-4286	FLASK GRADUATE 50ML				EA			6			8	
6640-00-935-4287	FLASK GRADUAT 1000ML				EA			6			7	
6640-00-935-4288	FLASK GRADUAT 2000ML				EA			2			8	
6640-00-938-4723	FLASK VOL PLAST 100ML				EA			1			8	
6640-00-938-4758	FLASK VOL PLAST 250ML				EA			1			8	
6640-00-938-4763	FLASK VOL PLAST 500ML				EA			1			8	
6640-00-938-4775	FLASK VOL PLA 1000ML				EA			1			8	
6640-00-942-4393	BEAKER LAB GL 250ML				EA			2			11	
6640-00-942-4395	BEAKER LAB GL 600ML				EA			2			7	
6640-00-966-3644	BASKET TEST TU				EA			5			8	
6640-00-982-5979	TEST TUBE HEMAT 500S				PG			1			8	
6640-00-982-5997	CYLINDER LAB 100ML				EA			2			8	
6640-00-982-5998	CYLINDER LAB 50ML				EA			6			8	

BUILD MATERIAL LISTING											Page 13 of 18	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG
6640-00-982-7495	CYLINDER LAB 10ML				EA			4			LOCATION 8	
6640-01-030-9012	DISH CULTUR PETRI				PG			1			10	
6645-00-089-6156	TIMER INTERNAL 115V				EA			2			8	
6650-00-227-8743	ADAPTER CUVETTE				EA			1			8	
6650-00-976-2507	ADAPTER CUVETTE				EA			1			8	
6680-00-641-3206	COUNTER RECIP HAND HL				EA			2			8	
6685-00-010-8366	THERMOMETER SELF INDI				EA			2			8	
6685-00-010-8367	THERMOMETER SELF INDI				EA			2			8	
6695-00-118-2918	BAG FOOD SAMPLE 500g				PG			1			8	
6695-00-975-1107	BAG FOOD SAMPLE 500				PG			1			8	
6810-00-116-9300	DIPHENYLCARBAZO 25GM				BT			1			8	
6810-00-134-0000	PHENOLPHTHALEIN 1 OZ				BT			1			11	
6810-00-136-3000	POTASSIUM DICH 1/4LB				BT			1			11	
6810-00-137-5000	POTASSIUM PHDS 1LB				BT			1			11	
6810-00-141-3595	SODIUM ACETATE 1LB				BT			1			11	
6810-00-153-9974	METHYL RED 10GM				BT			1			11	
6810-00-234-8370	SODIUM CHLORID 1LB				BT			2			11	

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BUILD MATERIAL LISTING												Page 14 of 18	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG LOCATION	DATE MFG	
6810-00-281-2781	STARCH SOLUBLE 10Z				BT			1			11		
6810-00-299-8153	SODIUM PHOSPHA 14LB				BT			1			11		
7240-00-023-8570	PAIL UTILITY 14QT				EA			2			31		
8115-01-013-8533	BOX PATH INSUL PLAS				EA			5			27		
8125-00-418-7105	STOPPER BTL CORP 30S				PG			1			8		
5110-00-161-6909	SHEARS STR TRIMMER 9IN				EA			1			10		
5120-00-237-6985	SCREWDRIVER 8IN BLADE				EA			1			10		
5120-00-421-0000	DIAMOND POINT SCRIBER				EA			3			10		
6230-00-498-9408	LANTERN ELEC CASE STL				EA			1			10		
6240-00-155-8681	LAMP INCANDESCENT 5.1				EA			1			10		
6260-00-161-4296	CANDLE ILLUM WHITE				DZ			6			6		
6650-00-514-3531	MAGNIF GLAS READ 4IN				EA			2			10		
6810-00-241-1191	MERCURIC NIT MONDH7D				BT			1			10		
7330-00-272-2591	OPENER CAN				EA			1			10		
7510-00-174-3205	PENCIL RED 6 1/4IN LG				DZ			1			10		
7510-00-205-1439	RUBBER BAND MO.16				BX			1			10		
7510-00-266-6712	TAPE MASKING PRES SEN				RD			M 1			10		

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BUILD MATERIAL LISTING											Page 15 of 18	
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG LOCATION	DATE MFG
7510-00-286-5750	PENCIL GRAPHITE LEAD				DZ			2			10	
7510-00-551-9818	TAPE PRESS SENS ADH				RD			1			10	
7520-00-281-6175	TIME DATE STAMP				EA			1			10	
7520-00-926-2021	SLIDE RULE CIRCULAR				EA			1			10	
7530-00-222-3523	BOOK MEMO RECORD RULE				EA			3			10	
7530-00-285-5836	PAPER WRITING				PG			1			10	
7530-00-558-1152	PAPER GRAPH				PD			1			10	
7920-00-240-2555	SPONGE NAT UNBLEACHED				EA			3			10	
7920-00-297-1510	BRUSH TESTUBE				EA			2			10	
7920-00-409-4000	BRUSH FLASK 41-2IN				EA			1			10	
7920-00-409-5500	BRUSH TEST TUBE				EA			3			10	
7930-00-558-1111	DETERGENT SURGICAL				CN			3			10	
8110-00-412-4410	CAN MAILING SINGLE				EA			12			11	
8125-00-174-0855	BOTTLE POLYETHYL 40Z				EA			6			10	
8125-00-819-6085	BOTTLE SCRES CAP POLY				EA			10			10	
8415-00-261-7015	GLOVES CLT NAT ASBEST				PR			1			10	
8415-00-715-0450	APRON LAB PLSTC BIB				EA			6			10	

BUILD MATERIAL LISTING													Page 16 of 18
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG LOCATION	DATE MFG	
8540-00-793-5425	TISSUE FACIAL CELLULO				BX			1			10		
9150-00-431-4087	GREASE STOPCOCK LAB				DZ			1			10		
9535-00-541-2453	ALUM FOIL 12IN w/75FT				RO			1			10		

BUILD MATERIAL LISTING												Page 17 of 18
FSN	NOMENCLATURE	TOT CON	WT	CU I/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	LOCATION	DATE MFG
BASIC ISSUE ITEMS, FOR SHELTER--PACKED WITH CLINICAL LABORATORY												
4030-00-541-4048	DRIVING HEAD			EA			1				19	
4030-00-972-2670	GROUND ANCHOR ASSY			EA			14				19	
4730-00-042-4270	HOSE, DUAL, WATER			EA			1				26	
4720-00-574-7902	HOSE, VACUUM			EA			1				25	
4730-00-080-3382	DRAIN HOSE			EA			1				23	
5120-00-134-4725	HOLDING HANDLE			EA			1				19	
5120-00-970-6412	DRIVING ROD			EA			1				19	
5340-00-042-8664	STRAP ASSY			EA			4				NIC	
5410-00-018-7338	WEB NET ASSY			EA			1				NIC	
5410-00-018-7541	ROPE NET ASSY			EA			1				18	
5410-00-022-2653	AIR DUCT ASSY			EA			2				31	
5410-00-022-2669	JACK ASSY			EA			4				NIC	
5410-00-022-2670	SUPPORT ASSY			EA			4				NIC	
5410-00-022-2671	JACK ASSY			EA			4				NIC	
5410-00-022-2673	PLENUM ASSY			EA			1				20	
5410-00-118-1234	BELLOWS ASSY			EA			1				30	

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BUILD MATERIAL LISTING												Page 18 of 18
FSN	NOMENCLATURE	TOT CON	WT	CU	U/I	TYP CON	CON NO	QTY RQTD	LOT OR CONT NO	MOD OF CONT NO	MFG	DATE MFG
5410-00-434-6201	AIRLOCK ASSY C/O DOOR ASSY 3 BOW ASSY W/14 ROPES AND 14 SLIPS				EA			1			LOCATION 24	
5410-00-434-6301	BASE PLATE (JACK)				EA			4			16	
5410-00-440-9971	FLANGE ASSY				EA			2			20	
5410-00-755-9319	AIRLOCK ADAPTER				EA			1			24	
5410-00-466-7429	TREAD PLATE UPPER				EA			1			21	
5410-00-466-7438	TREAD PLATE LOWER				EA			1			21	
5410-00-807-5811	ADAPTER, DUCT				EA			2			32	
6150-00-467-2541	CABLE, 60HZ				EA			1			NIC	
6150-00-836-8595	CABLE, 400HZ				EA			1			NIC	
6210-00-473-9834	LIGHT ASSY AIRLOCK W/25 FT CABLE				EA			1			24	
8340-00-823-7451	TENT PIN				EA			8			19	
8430-00-935-6627	SPIKE, BOW				EA			10			19	
7510-00-889-3494	LOG BOOK MANUALS				EA			1			NIC	
					EA			1			NIC	

LEGEND FOR LOCATION:  
NIC = NOT IN CABINET OR PACKAGE--ITEMS ARE INSTALLED OR SECURED WITHIN SHELTER WITHOUT A CONTAINER.

LEGEND FOR LOCATION:

NIC = NOT IN CABINET OR PACKAGE--ITEMS ARE INSTALLED OR SECURED WITHIN SHELTER WITHOUT A CONTAINER.

Appendix B  
Section 1



110 MARYLAND STREET / EL SEGUNDO CALIFORNIA 90245 / (213) 322-8017

June 15, 1977

Mr. Raymond L. Hays  
DARCOM Packaging, Storage and  
Containerization Center  
Department of the Army  
Headquarters Tobyhanna Army Depot  
Tobyhanna, Pennsylvania 18466

Attention: DRXTO-TP-P

Dear Mr. Hays:

Flexible Barrier Enclosures for Army Medical Material

This letter is in response to Howard H. Hovey's letter to me dated May 31, 1977.

Enviropak would like to propose flexible barrier enclosures for expandable and multi-purpose shelters and your power units. These containers would be made in two parts which a bottom and top section joined by a circumferential extruded plastic vapor- and pressure-sealing zipper.

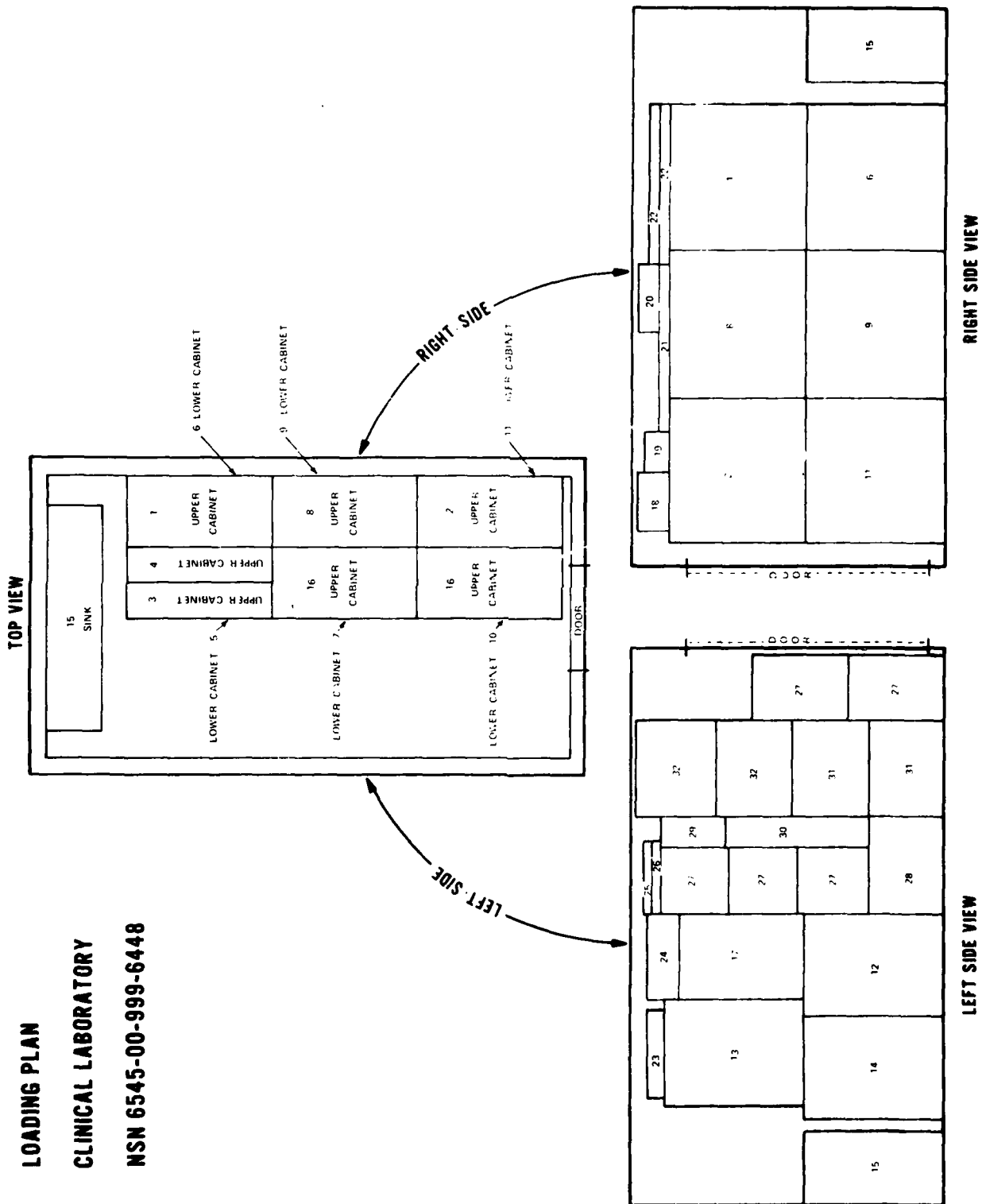
Prices for these containers would be as follows:

<u>Description</u>	<u>Quantity</u>	<u>Unit Price</u>	
		<u>DRIGUARD 1127</u>	<u>DRIGUARD 1227</u>
Expandable Shelter	10	\$575.00	\$800.00
Multi-purpose Shelter	19	525.00	730.00
Power Unit	9	400.00	560.00

Shipment could be made 8-16 weeks after receipt of order depending upon our workload at the time of order.

DRIGUARD 1127 material meets all requirements of Mil-C-9959B, Type III, except for synthetic fluid resistance. Covers made out of this material would be fitted

Appendix A--Continued  
Section 4.



Appendix B--Continued  
Section 1

Mr. Raymond L. Hays  
Department of the Army/Tobyhanna

June 15, 1977  
Page 2

with two 4" sleeves to connect to the ducting of the dynamic dehumidification unit. Before we recommend a dehumidifier for the type of hookup you should use, we will talk with some dehumidifier manufacturers and get their input as to what would be the most efficient and economical method of selecting and using a dehumidifier. I will be in touch with you when I receive this information.

Containers made out of our DRIGUARD 1227 material would be capable of being desiccated with bagged clay or silica gel desiccant. In the environment of Tobyhanna, Pennsylvania, these containers would keep the internal relative humidity below 40% for in excess of 18 months. These containers would meet all of the requirements of Mil-C-9959B, Type I, except for low temperature operation.

All of these containers would include an instructions pouch, zipper slider and slider pouch, two air valves and a humidity indicator.

Either of the container types dynamically desiccated or statically desiccated are capable of being applied at the storage site under field conditions. These containers are such that they can be repeatedly opened and closed, and reused. They have an anticipated life exposed to the weather of as much as ten years.

If you have any questions or require any further information please let me know. I am enclosing literature, specification sheets, military specs and material samples for your review. We look forward to working with you in the near future.

Sincerely,



John H. Nunn  
National Sales Manager

dm  
Enc.

cc: Steve Crandall

Appendix B--Continued  
Section 1



110 MARYLAND STREET / EL SEGUNDO, CALIFORNIA 90245 / (213) 322-8017

August 2, 1977

Mr. Raymond L. Hays  
DARCOM Packaging, Storage and  
Containerization Center  
Department of the Army  
Headquarters Tobyhanna Army Depot  
Tobyhanna, Pennsylvania 18466

Attention: DRXTO-TP-P

Dear Mr. Hays:

Dynamic Dehumidification for Army Medical Material in  
Flexible Barrier Enclosures

Per your request we have talked with various dynamic dehumidification equipment manufacturers about the requirements for dehumidifying the 38 enclosures we quoted to you in my letter of June 15, 1977.

There are a wide variety of numbers, sizes and arrangements of dynamic dehumidifiers that could potentially do the job for you. However, the optimum selection depends on a series of variables as follows: Spacing between enclosures; power supply available (110, 220, 440) single phase or 3-phase; how much ducting, if any, is required; type of dehumidification unit--indoor, weatherproof, explosion proof; whether individual dynamic dehumidifiers are installed within each enclosure; the type of controls required--on-off, timer, humidistat; location of controls--overhead or underground wiring.

Based on the proposals we received from dynamic dehumidifier manufacturers we would estimate that the necessary equipment costs would be \$10,000 to \$15,000 for weatherproof units operating on 220 volt, 3-phase power with humidistats to control their operation. However, due to the large number of variables involved in this, some of which I mentioned in the previous paragraph, the optimum system could only be designed after all of these questions have been answered.



Appendix B--Continued  
Section 1

Mr. Raymond L. Hays  
August 2, 1977  
Page 2

I would suggest that you contact the dynamic dehumidifier manufacturers directly as you are in a much better position than we are to give detailed information on the exact layout, power supply, specifications, maximum humidity levels allowable and additional requirements or limitations that you may have.

If you have any questions or require any further information please let me know.

Sincerely,



John H. Nunn  
National Sales Manager

dm

cc: Steve Crandall

Section 1



110 MARYLAND STREET / EL SEGUNDO, CALIFORNIA 90245 / (213) 322-8017

TECHNICAL DATA SHEET

DRIGUARD 727 or 1127\*

DRIGUARD 1227\*\*

Base Fabric - oz.	Dacron Scrim, 10x10-1000 Denier	Same
Total Weight - oz./sq. yd.	28	Same
WVTR - grams/100 sq. in./24 hr. (FTMS 101B, Method 3030, Procedure A at 73 deg. F.)	Below 0.10	Below 0.02
Tear - lb. (FTMS 191, Method 5134)	45 x 45	Same
Grab Tensile - lb./in. (FTMS 191, Method 5100)	280 x 270	Same
Adhesion - lb./in. (FTMS 191, Method 5950 at 2"/minute)	20	Same
Low Temperature - deg. F. (FTMS 101B, Method 2049)	-40 deg. F.	Same
Flame Resistance (FTMS 406, Method 2022)	Time of flame of not more than 5 sec.	Same
Chemical Resistance	Superior to most PVC by virtue of low % of plasticizers and heavy plies of film	One side coated for oil, grease, hydraulic fluid and resistance***
Construction	Calendar laminated	Calendar laminated
Ply Ratio	50/50	50/50
Color (Standard)	Light blue or dark blue	Dark blue

\*DRIGUARD 1127 complies with Table I, "Physical Properties of Barrier Material," Grade C of Mil-C-9959B except it is not resistant to fluid Mil-I-7807.

\*\*DRIGUARD 1227 complies with Table I, "Physical Properties of Barrier Material," Grade B of Mil-C-9959B without exception.

\*\*\*This material is the same as DRIGUARD 1127 with the exception of the fluid resistant film on the matte side.

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Section 1

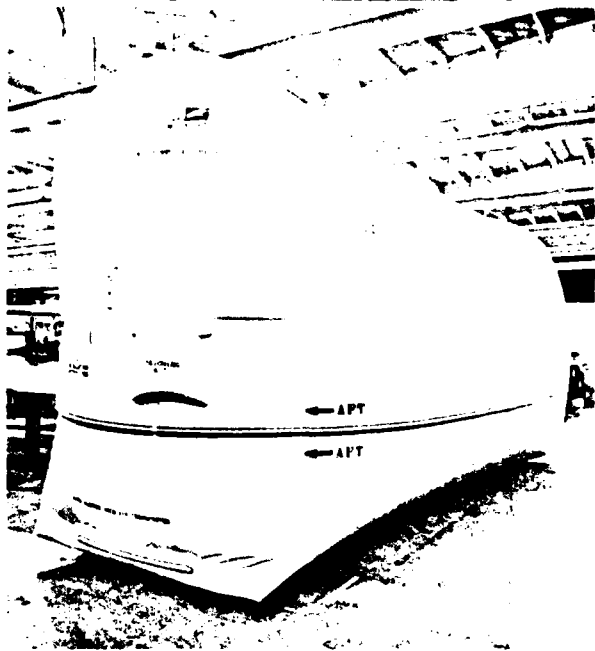
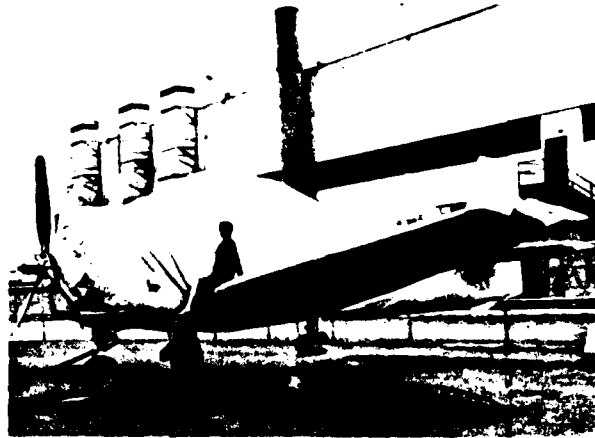
# DRIGUARD

superior

# PACKAGING SYSTEMS

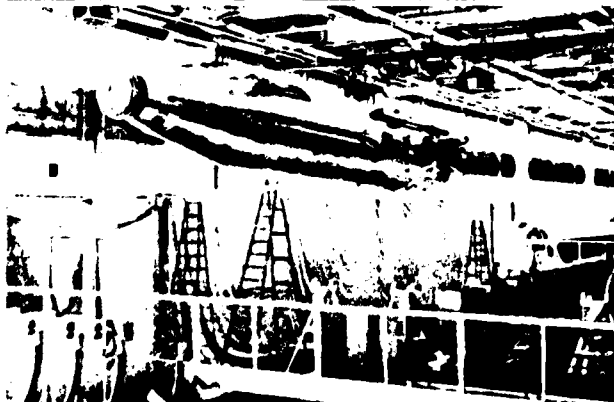
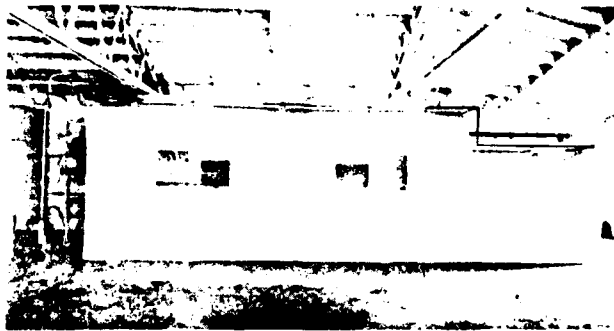
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SPECIALISTS IN ENGINEERING AND MANUFACTURING PRODUCTS FROM VINYL, **HYPALON**, NEOPRENE, POLYURETHANE AND OTHER FLEXIBLE SHEETING MATERIALS. PLAIN AND FABRIC SUPPORTED. SELECTED FOR DURABILITY AND TOUGHNESS TO MEET YOUR SPECIAL NEEDS.



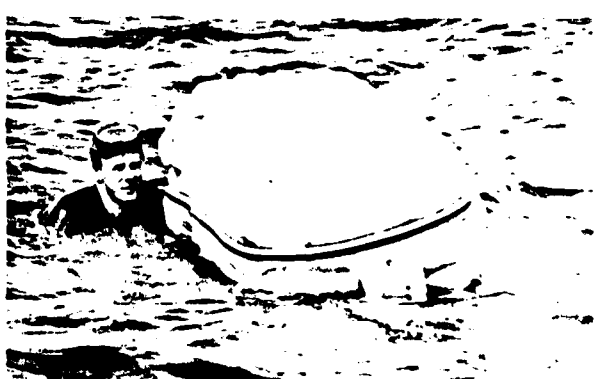
**EQUIPMENT COVERS**

Protects equipment from weather and dirt.



**TARPAULINS AND SHELTERS**

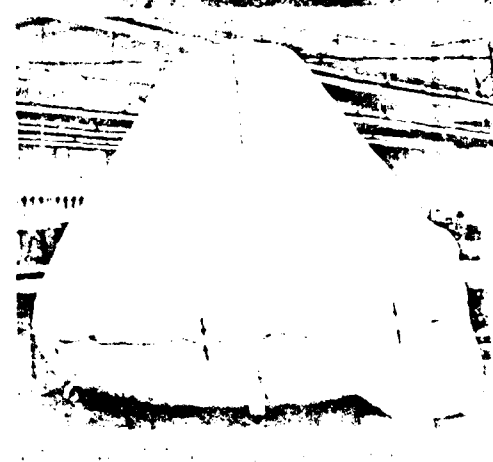
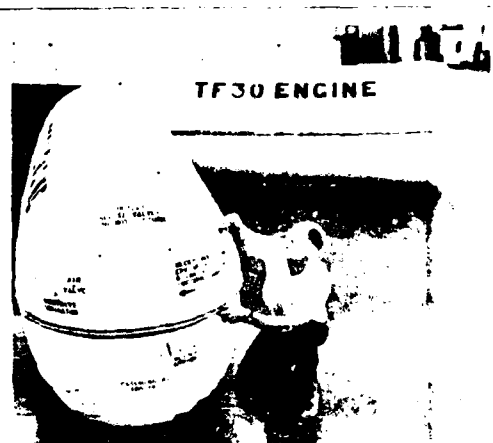
Air welded for fabric material strength and waterproof seams.



**PACKS AND POUCHES**

Zippered for quick opening and closing. Custom made to order.

Appendix B--Continued  
Section I



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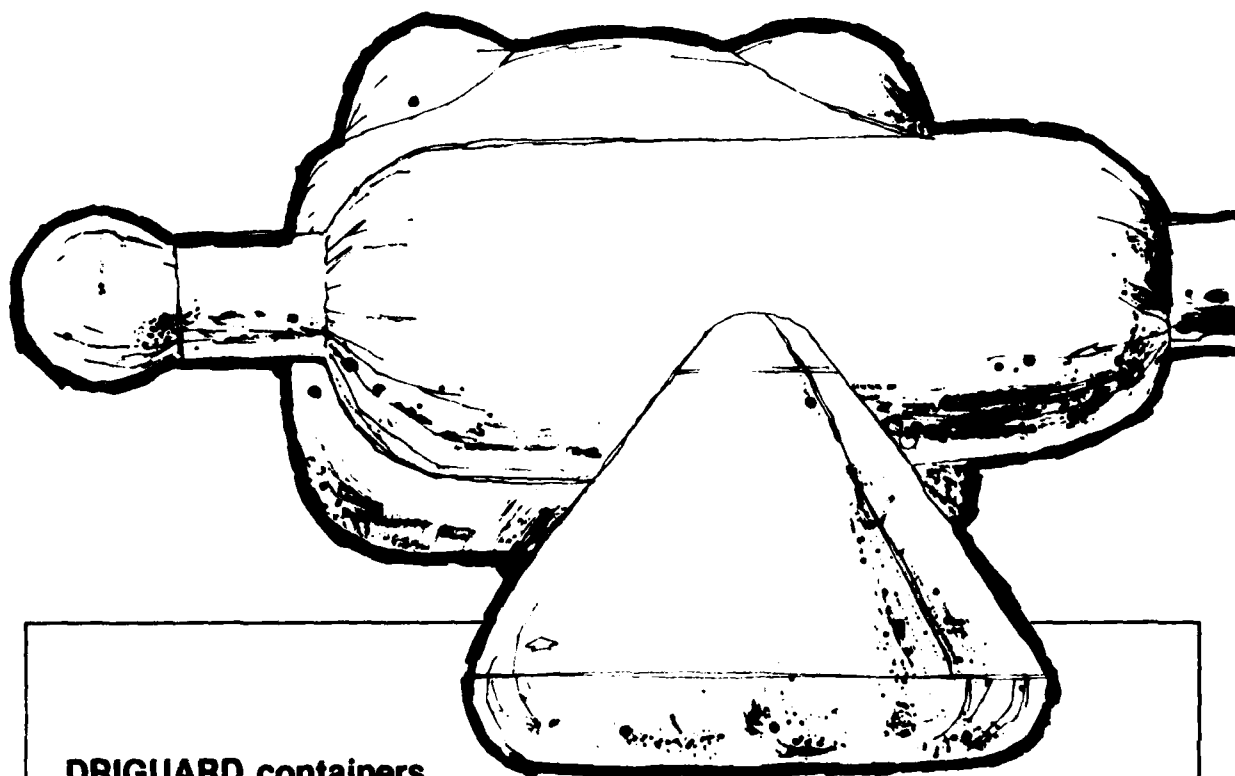


**ENVIROPAK INC.**

For more information, please contact the company at 1-800-368-1000.

# DRIGUARD ENVIRONMENTAL CONTAINERS

Protection for precision equipment against corrosion and contamination



## **DRIGUARD containers**

- ....protect equipment in a low humidity dust-free environment
- ....can be shipped or stored folded when not in use
- ....slash costs of controlled humidity storage
- ....are field repairable
- ....are reusable and can be opened and closed repeatedly for inspection and redessiccation
- ....can be inflated or evacuated — statically or dynamically dehumidified
- ....hold up to extreme weathering conditions for 10 or more years

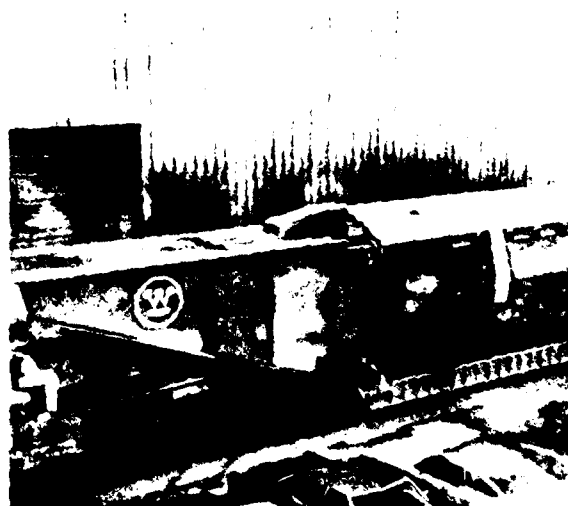
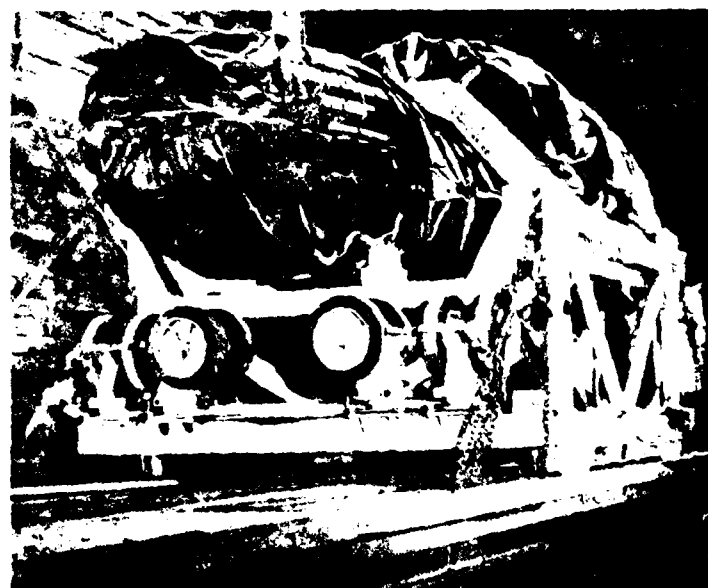
Corrosion and contamination damage to precision equipment in shipment and storage can be very costly. DRIGUARD preservation packages protect all kinds of sensitive equipment from environmental damage. DRIGUARD containers are weatherproof, flexible plastic bags that are custom fitted to any size or shape required. They can be completely sealed and will maintain a low internal relative humidity for extended periods. Lightweight, field repairable and reusable DRIGUARD containers maintain equipment in perfect operating condition, ready at a moment's notice when needed. Manufactured to the stringent standards of Mil-C-99598 they provide many years of reliable and economical outdoor protection. Items inside DRIGUARD packaging can be kept dry with bagged desiccant, inert gas or dynamic dehumidification. Flexible barrier containers are an extremely versatile means of shipping and storage protection.

#### Barrier Materials

Several barrier materials are available to protect equipment shipped and stored under a broad range of environmental conditions. A material can be selected to meet your specific requirements. Low temperature operation, chemical resistance and long term life in high temperature, high humidity environments can be achieved with the proper barrier material. C materials stand up to wind whipping, ozone and ultraviolet light.

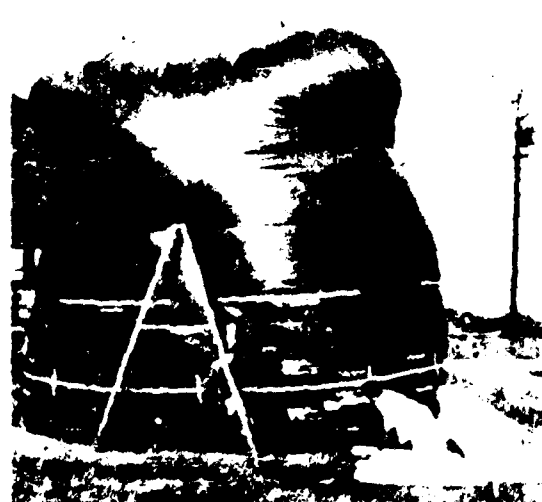
#### Zipper Closures

A variety of vapor and pressure sealing zippers are available. They are easy to operate and can be opened and closed repeatedly. Zippers for low temperature operation, chemical resistance and high strength can be selected to give you the closure characteristics you require.



A giant Schnabel car holds a Westinghouse stationary engine sealed in a Driguard container suitable for long term outdoor storage.

For the barrier containers can be custom fitted to the contour of the equipment. They are strong enough to take the wind whipping and are adaptable to a variety of handling requirements.



Reactor internal components were successfully protected by DRIGUARD environmental containers during shipment and storage in a salt air environment.



When a power plant project was held up for two years, these generators, with their own internal atmosphere successfully protected power plant parts and generator units stored outdoors.

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The metal tooth/rubber seal zippers are used primarily for inspection and desiccant access. They include integral, molded rubber pressure and vapor tight seals. They are convenient to operate, but cannot be used to join sectional containers since they are non-separating.



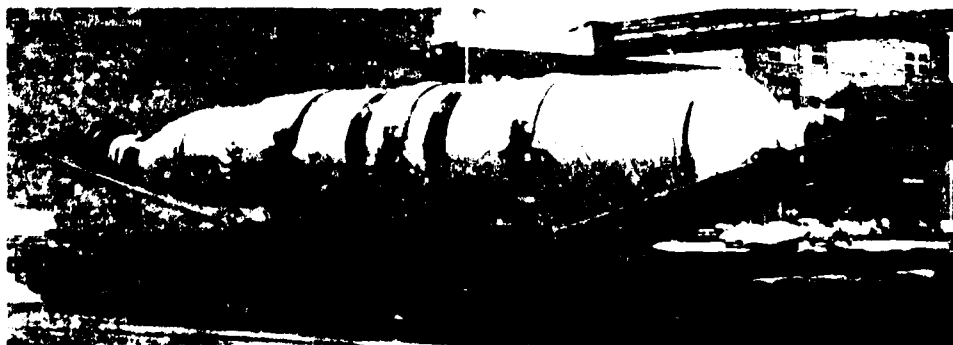
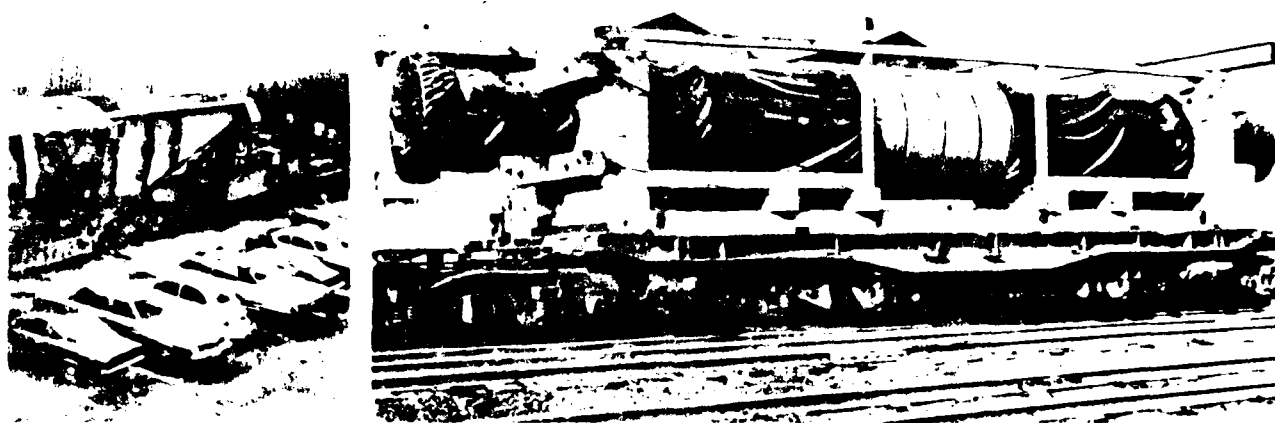
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Extruded plastic zippers, some and vapor sealing zippers, are available in various sizes. These heavy duty inexpensive zippers permit the design of multiple piece containers.

## Optional Components

- Humidity Indicators** - provide visual monitoring of internal relative humidity
- Air Valves** - allow container testing, evacuation and pressurization with inert gas
- Inspection Windows** - clear plastic material allows visual inspection of equipment in a sealed container
- External Pouches** - hold shipping papers, zipper sliders, repair kits
- Doubler Pads** - add strength and abrasion resistance to areas of the container as required
- Security Flaps** - protect zipper area - held down by Velcro
- Desiccant Pouches** - hold bagged desiccant inside the container
- Relief Valves** - relieve pressure during air shipment
- Stenciled Markings** - provide information and instructions as required



The container unit is designed to be used in a variety of ways. It can be used as a storage unit, a transport unit, or a display unit. The container unit is made of a strong, durable material and is designed to withstand the harshest conditions. It is also designed to be easy to use and maintain.

The container unit is available in a variety of sizes and configurations. It can be used to store a wide range of equipment and materials. It is also available in a variety of colors and finishes.

The container unit is a versatile and reliable piece of equipment. It is designed to meet the needs of a wide range of users and applications. It is a must-have for anyone who needs a secure and durable storage solution.

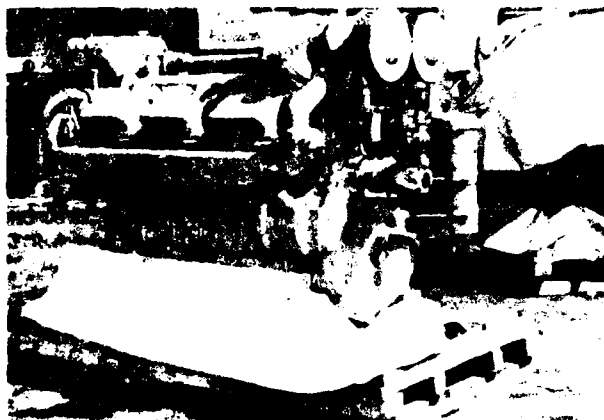
# Appendix B-Continued Section 1



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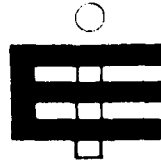


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## **DRIGUARD ENVIRONMENTAL CONTAINERS**

Basic Specification MIL-C-99598



**ENVIROPAK INC.**

110 MARYLAND STREET  
EL SEGUNDO, CALIF. 90245  
(213) 322-8017

Local Representative

- Related products include:
- ..Custom shipping covers
  - ..Dust covers
  - ..Tank liners
  - ..Vapor recovery diaphragms



## Appendix B--Continued

### Section 1

MIL-C-9959B

10 December 1974

SUPERSEDING

MIL-C-9959A(USAF)

10 July 1968

#### MILITARY SPECIFICATION

##### CONTAINER, SHIPPING AND STORAGE (FLEXIBLE, REUSABLE, WATER-VAPORPROOF)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

#### 1. SCOPE

1.1 Scope. This specification covers design, construction and the performance requirements for a reusable, flexible, water-vaporproof container for environmental protection of internal combustion engines, selected space equipment, and other military items (see 6.1).

1.2 Classification. Containers covered by this specification shall be of the following types, as specified (see 6.2).

Type I - For overseas and domestic shipment and storage of not less than 12 months without replacing the desiccant.

Type II - For normal overseas and domestic shipment and storage of not less than six months without replacing the desiccant.

Type III - For domestic shipment and storage of not less than 60 days without replacing the desiccant.

#### 2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on the date of invitation for bids or request for proposal form a part of this specification to the extent specified herein.

#### SPECIFICATIONS

##### Federal

P-P-121	Paper, Abrasive; Garnet
PPP-B-576	Box, Wood, Cleated, Veneer, Paper Overlaid
PPP-B-591	Boxes, Fiberboard, Wood-cleated
PPP-B-640	Boxes, Fiberboard, Corrugated, Triple Wall
PPP-T-495	Tube, Mailing, and Filing

##### Military

MIL-P-116	Preservation-Packing, Methods of
MIL-D-1000	Drawing, Engineering and Associated Lists

## Appendix B--Continued Section 1

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MIL-D-3464	Desiccants, Activated, Bagged, Packaging Use, and Static Dehumidification
MIL-T-4727	Trailers, Rail-Type, General Specification for
MIL-J-5624	Jet Fuel, Aviation, Grades JP-4, and JP-5
MIL-O-6081	Lubricating Oil, Jet Engine
MIL-C-6529	Corrosion Preventive, Aircraft Engine
MIL-L-7808	Lubricating Oil, Aircraft Turbine Engine, Synthetic Base
MIL-M-8090	Mobility Requirements, Ground Support Equipment, General Specification for
MIL-G-12803	Gasket Material, Nonmetallic
MIL-S-18718	Cleaning Compound, Solvent
MIL-L-23699	Lubricating Oil, Aircraft Turbine Engine, Synthetic Base
MIL-I-26860	Indicator, Humidity, Plug, Color Change

### STANDARDS

#### Federal

Fed. Test Method Std. No. 101	Preservation, Packaging, and Packing Materials, Test Procedures
Fed Test Method Std. No. 191	Textile Test Methods
Fed Test Method Std. No. 406	Plastics, Organic; General Specifications, Test Methods
Fed Std No. 595	Colors

#### Military

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-130	Identification Marking of U. S. Military Property
MIL-STD-810	Environmental Test Methods
MIL-STD-831	Test Reports, Preparation of

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity as directed by the contracting officer).

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated the issue in effect on date of invitation for bids or request for proposal shall apply.

#### UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, Illinois 60606)

#### NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INCORPORATED, AGENT

National Motor Freight Classification

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Section 1

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(Application for copies should be addressed to the American Trucking Associations, Inc., Tariff Order Section, 1616 P Street NW, Washington DC 20036.)

3. REQUIREMENTS

3.1 First article inspection testing. This specification makes provisions for first article inspection testing (4.3).

3.2 Materials. Materials shall conform to the requirements specified and specifications referenced herein or as otherwise specified by the Procuring Agency.

3.2.1 Barrier material. Barrier material used in the fabrication of the containers shall conform to the physical properties as specified in Table I and shall be of the following grades:

- Grade A - For Type I containers
- Grade B - For Type II containers
- Grade C - For Type III containers

---

TABLE I      Physical Properties of Barrier Material

---

Properties	Requirements		
	Grade A	Grade B	Grade C
<u>Flame Resistance (4.5.2.1)</u>	The barrier material shall show a time of flame of not more than five seconds		
<u>Abrasion Resistance (4.5.2.2)</u>	No penetration greater than 50% of the thickness of the material		
<u>Resistance to Aging(4.5.2.3)</u>	No delamination, seam separation, or cracking		
<u>Resistance to Light (4.5.2.4)</u>	No embrittlement, cracking, or delamination		
<u>Corrosiveness(4.5.2.5)</u>	No corrosion		
<u>Water Vapor Transmission Rate (WVTR) (4.5.2.6)</u>			
After room temperature flexing			
Before exposure (Gms/100 Sq in/ 24 hrs)	0.02 (Max)	0.05(Max)	0.10(Max)

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Section 1

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After exposure (Gms/100 sq in/24 hrs)	0.03(Max)	0.07(Max)	0.15(Max)
After low temperature flexing as received (Gms/100 sq in/24 hrs)	0.20(Max)	0.25(Max)	0.35(Max)
<u>Resistance to Blocking (4.5.2.7)</u>	No blocking, delamination or rupture		
<u>Fluid Resistance(4.5.2.8)</u>	No leakage, excessive swelling, delamination, embrittlement or sponginess when tested with fluids meeting the requirements in MIL-J-5624, MIL-O-6081, MIL-C-6529, MIL-L-7808 and MIL-L-23699		
<u>Impact Puncture Resistance(4.5.2.9)</u>	No puncture entirely through the material		
<u>Breaking Strength(4.5.2.10)</u> as received (weakest direction, lbs)	200(Min)	200(Min)	200(Min)
<u>Tear Strength(4.5.2.11)</u> as received (Lbs, any direction)	30(Min)	30(Min)	30(Min)
<u>Low Temperature Vibration Resistance (4.5.2.12)</u>	No delamination, cracks, or holes		
<u>Weight per square yard(4.5.2.13)</u>	3.1 pounds maximum 114 ounces		

3.2.2 Closure material. Closure material shall conform to the physical properties listed in Table II.

TABLE II Physical Properties of Closure Materials

Properties	Requirements
<u>Resistance to Aging (4.5.2.3)</u>	No seam separation or cracking of closure section
<u>Resistance to Light (4.5.2.4)</u>	No embrittlement, no cracking
<u>Fluid Resistance (4.5.2.8)</u>	No excessive swelling, sponginess or delamination when tested with fluids meeting the requirements in MIL-J-5624, MIL-O-6081, MIL-C-6529, MIL-L-7808 and MIL-L-23699

3.2.3 Color of container. The color of the container shall be in accordance with Federal Standard 595, color number 15045, or as specified by the purchasing activity.

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3.3 Container design and construction.

3.3.1 Design. The design of the flexible container shall be the responsibility of the prime Government Contractor. Preliminary drawings conforming to MIL-D-1000, Category A, shall be submitted for approval to the purchasing activity before first article container fabrication. Final design drawings conforming to MIL-D-1000, Category E, shall be approved by the purchasing activity after first article inspection testing, and prior to production of the container. The purchasing activity will furnish upon request the necessary information pertaining to related equipment (e.g., engines, adapters, transportation devices)(see 6.2).

3.3.2 Construction. The container assembly shall include the following major components.

- Pressure relief valve(s) when specified (see 6.2).
- Humidity indicator
- Container closure(s)
- Closure tools
- Closure protective cover
- Instruction Handbook (Handling, Installation and Container Repair)
- One records receptacle for all applicable documents
- One patching kit receptacle
- One patching kit
- Desiccant receptacle(s)
- Air Valve(s) (for inflating container for pressure retention test)
- Drain valve

3.3.2.1 Pressure relief valve. Corrosion-resistant valve(s) shall be installed in such a manner that it can be removed for replacement or repair. The valve(s) shall be designed to preclude a differential pressure sufficient to damage or open any of the seams and closures of the barrier material during storage or surface transport. The flow rates and cracking pressures shall be specified by the design activity and certified by the manufacturer. Valve replacement and repair instructions shall be provided.

3.3.2.2 Humidity indicator. Humidity indicators for determining the relative humidity of the interior of the container from the outside shall conform to MIL-I-26860, Type II. The indicator shall be a three spot type with 20, 40 and 60% relative humidity spots, or as specified (see 6.2). The indicator shall be located as far as practical from the desiccant receptacle(s).

3.3.2.3 Gaskets. Gasket material shall comply with MIL-G-12803 or the equivalent to the barrier material of the container, and in addition, be resistant to fluids common to the item being packaged.

3.3.2.4 Closure. The design of the container shall provide a manually operated closure for the rapid installation/removal of the container on/from the item. More than one closure in the container will be permitted to expedite installation. There shall be no gaps in the container closure, and all joints shall have smooth surfaces. No means shall be used to supplement the container such as tape or sealant. The container closure shall not fail during the opening or closing when

## Appendix B--Continued

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tested in accordance with 4.5.1.7. Any fabric adjacent to the closure shall be sealed to preclude any loose fibers from interfering with the closure.

3.3.2.4.1 Closure tool. The closure tool, used for opening and/or closing, shall be capable of being operated without forcing and binding. A pocket on the container assembly shall be provided for storage of any closure tool that is not an integral part of the container.

3.3.2.4.2 Closure protective cover. The design of protective cover shall discourage tampering and provide protection from the rain, wind, sand, and dust. It shall be composed of the container barrier material, or other suitable material when approved by the purchasing activity. It shall be of such length as to cover the container closure, and of such width to permit its being bonded to the container halves. The design for the cover shall permit its being readily opened and closed for access to the closure. Metal hooks and eyelets shall not be used for this purpose.

3.3.2.5 Installation instructions. Each container shall be accompanied by one set of durable instructions in a weatherproof record pocket constituting an integral part of the container. Instructions shall include a step-by-step procedure for closing, opening, installing, and removing the container from the item and handling equipment for which it is designed. The instructions for each design shall be approved by the purchasing activity.

3.3.2.6 Patching kit. Each container shall be supplied with a patching kit consisting of a sheet of patching material with a minimum width of 12 inches and an area equal to approximately five per cent of the surface area of the container, but not to exceed 10 square feet. The patching material shall be provided with adhesive, and a set of instructions for applying the patches. The patch when applied under emergency conditions shall meet the WVTR requirements as specified for the material in TABLE I. The adhesive used shall be compatible with the material and be of the room temperature curing type. The kits shall be housed in a weatherproof pocket which is an integral part of the container. When containers are repaired, the area where the patch is applied shall meet the requirements of the pressure retention test (4.5.1.1).

3.3.2.7 Seams. The seams of the container shall be the overlap or lap type and shall be fabricated by the bonding method unless otherwise authorized by the purchasing activity. Seams shall meet all requirements of the barrier material when tested in accordance with 4.5.2 where applicable.

3.3.2.8 Desiccant receptacle(s). Unless otherwise specified, the containers shall be provided with receptacle(s) for the desiccant. The receptacle(s) shall be designed to be accessible by an air tight closure from the outside of the container. The closure shall be capable of being operated by hand or with common hand tools. The walls of the receptacle(s) shall permit optimum interchange of air around the desiccant and shall prevent the desiccant from contacting the item.

3.3.2.9 Air valve(s). All containers shall be provided with a corrosion-resistant air valve. The valve shall be easily accessible and shall be adaptable for the

## Appendix B--Continued

### Section 1

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attachment of gages for inflating and pressure testing the container.

3.3.2.10 Drain valve. All containers shall be provided with a corrosion-resistant valve located at the lowest part of the container. The valve shall be capable of draining any fluids from the container.

#### 3.4 Container performance requirements.

3.4.1 Pressure retention. The container shall be capable of maintaining pressure as specified in 4.5.1.1.

3.4.2 Protection requirement. Each container shall meet the protection period requirements of Table III. The environment inside the container shall not reach greater than 40% relative humidity at 75°F.

TABLE III. SPECIFIED PROTECTION PERIOD REQUIREMENTS		
Container Type	Minimum Duration Period (Time) at 80°F and 80% Relative humidity	Formula to Determine Number of Units of Silica Gel Desiccant
Type I	12 months	$U = 5.4A$
Type II	6 months	$U = 5.4A$
Type III	60 days	$U = 3.6A$

Note 1. U= Number of silica gel desiccant as defined in MIL-D-3464.

Note 2. A= The entire surface area of the container in square feet.

3.4.3 Handling and compatibility requirements. The container shall meet the handling and compatibility requirements when tested in accordance with 4.5.1.3. The requirements shall be satisfied when it is demonstrated that no damage occurs to the container by meeting the requirements of pressure retention test (4.5.1.1).

3.4.4 Mobility requirements. The container shall meet the mobility requirements when tested in accordance with 4.5.1.4. The requirements shall be satisfied when it is demonstrated that no damage occurs to the container by meeting requirements of pressure retention test (4.5.1.1).

3.4.5 Rough handling requirements. After the engine and container are mounted on the transportation device and tested in accordance with 4.5.1.5 it shall meet the pressure retention test (4.5.1.1).

3.4.6 Wind resistance requirement. The container shall meet the wind resistance requirement when tested in accordance with 4.5.1.6. The requirements shall be satisfied when it is demonstrated that no cracks, breaks, or delaminations occur, and the container meets the requirements of pressure retention test (4.5.1.1).

3.5 Desiccation. Desiccation instructions shall be provided by the prime

Appendix B--Continued  
Section 1

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contractor as a part of installation instructions in accordance with 3.3.2.5 and 3.3.2.8.

3.6 Identification of containers. Each container shall be marked for identification, including type, in accordance with MIL-STD-130.

3.7 Operational markings. Unless otherwise specified, the following markings shall be printed directly on all containers at the locations with the letter sizes to be specified by the purchasing activity (see 6.2):

Adjacent to the humidity indicator:

HUMIDITY INDICATOR

Adjacent to the relief valve:

RELIEF VALVE  
DO NOT DISTURB

On opposite sides of the container:

REUSABLE CONTAINER  
DO NOT DESTROY

On opposite sides of the container:

CAUTION: HANDLE WITH CARE  
DO NOT TIE DOWN OVER INCLOSED ITEM  
DO NOT STACK LOAD ON INCLOSED ITEM

Adjacent to the container closure:

OPEN CLOSURE WHEN AIR TRANSPORTED

On or adjacent to the receptacle for patching kit:

PATCHING KIT

On or adjacent to the receptacle for records and installations:

RECORDS AND INSTALLATION INSTRUCTIONS

On or adjacent to closure tool receptacle:

CLOSURE TOOL

Apply forward and aft marking to appropriate section of container:

FWD - AFT

Adjacent to the air valve

AIR VALVE  
CAUTION: DO NOT INFLATE EXCEPT FOR LEAK TEST



## Appendix B--Continued

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Marking shall be in durable letter in a color contrasting to the color of the container. Markings shall be legible and where applicable shall be made with waterproof non-migrating ink.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the government. The government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspection. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).

4.3 First article inspection tests. First article inspection tests shall be performed on one completed container manufactured from same material and the same manufacturing process that will be used for production models and consist of all tests specified in Table IV.

TABLE IV. FIRST ARTICLE INSPECTION TESTS

Test	Requirements Paragraph	Test Paragraph
<b><u>BARRIER MATERIAL</u></b>		
Seam Fabrication	3.3.2.7	4.5.2
Flame Resistance	Table I	4.5.2.1
Abrasion Resistance	Table I	4.5.2.2
Resistance to Aging	Table I	4.5.2.3
Resistance to Light	Table I	4.5.2.4
Corrosiveness	Table I	4.5.2.5
Water Vapor Transmission Rate (WVTR)		
After room temperature flexing		
WVTR test on non-exposed specimens	Table I	4.5.2.6
WVTR test on exposed specimens	Table I	4.5.2.6
WVTR test after low temperature flexing	Table I	4.5.2.6
Resistance to Blocking	Table I	4.5.2.7
Fluid Resistance	Table I	4.5.2.8
Impact Puncture Resistance	Table I	4.5.2.9
Breaking Strength		
Before aging	Table I	4.5.2.10
After aging	Table I	4.5.2.10
Tear Strength	Table I	4.5.2.11
Low Temperature Vibration	Table I	4.5.2.12
Weight	Table I	4.5.2.13

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TABLE IV. FIRST ARTICLE INSPECTION TESTS (Contd)

Test	Requirements Paragraph	Test Paragraph
<u>Closure Material</u>		
Resistance to Aging	Table II	4.5.2.3
Resistance to Light	Table II	4.5.2.4
Fluid Resistance	Table II	4.5.2.8
<u>CONTAINER TESTS</u>		
Pressure Retention	3.4.1	4.5.1.1
Specified Protection	3.4.2	4.5.1.2
Handling and Compatibility	3.4.3	4.5.1.3
Mobility	3.4.4	4.5.1.4
Rough Handling	3.4.5	4.5.1.5
Wind	3.4.6	4.5.1.6
Closure	3 3.2.4	4.5.1.7

4.3.1. First article inspection reports. After the supplier or manufacturer completes the final first article inspection, he shall prepare a first article inspection report in accordance with MIL-STD-831 including a certification of compliance or noncompliance and furnish three complete copies of the report to the procuring activity.

4.4 Quality conformance inspection. Acceptance tests shall be as specified in 4.5.1.1, and 4.6.

4.4.1 Sampling for lot acceptance.

4.4.1.1 Lot. All containers, produced by one manufacturer and by the same manufacturing process from the same material and components for delivery at one time shall be considered a lot for purposes of inspection and test.

4.4.1.2 Sampling for examination. A random sample shall be selected from each lot offered for acceptance in accordance with MIL-STD-105 at inspection level S-4. The Acceptable Quality Level (AQL) shall be 1.0% for major defects and 10.0% for minor defects. Accept/reject criteria shall be as specified in MIL-STD-105. Examination shall be conducted as specified in Table V.

TABLE V. CLASSIFICATION OF DEFECTS

Categories	Defects
<u>Major</u>	
101	Type of container not as specified
102	Physical properties of barrier not conforming to requirements; pin holes, tears, delamination, cut, cracking
103	Seams not as specified
104	Pressure relief valves not provided when specified

# Appendix B--Continued Section 1

MIL-C-9959B

TABLE V. CLASSIFICATION OF DEFECTS (Contd)

Categories	Defects
<u>Major</u>	
105	Humidity indicator not provided of the type specified
106	Specified gaskets not provided
107	Gaskets not in place
108	Dimension of container not as specified
109	Closure not operable
110	Containers permanently deformed or set
111	Container(s) stick together
112	Patching kits not supplied
113	Desiccant receptacles not as specified
114	Air valve not as specified
115	Installation and preservation instructions not furnished
116	Unit package quantity not as specified
<u>Minor</u>	
201	Identification of container or other specified markings not printed on container
202	Containers not packaged as specified in Section V
203	Markings of packing containers not as specified

## 4.5 Test methods.

### 4.5.1 Container performance tests.

4.5.1.1 Pressure retention test. The container shall be inflated to a pressure as determined by Table VI. After inflation, the container shall stand a minimum of 30 minutes to allow the internal pressure and temperature to stabilize. The pressure should then be recorded and the test begun and timed for the prescribed length of time. Any blisters or bubbles or loss of more than 5% pressure over a period of 30 minutes shall be cause for rejection. Evidence of leakage shall be detected by means of a connected pressure gage graduated in inches of water. Compensation for known changes in temperature as recorded shall be allowed in the test procedure.

TABLE VI. PRESSURE RETENTION TEST DATA

Largest Diameter or largest size Dimension in inches	Pressure - Inches of Water When Container Is Not Mounted On <u>Engine and Transportation Device</u>		Pressure - Inches of Water when Container is Mounted on Engine and Transportation Device
	Circular Cross Section Container	Rectangular Cross Section Container	
0 to 24	8.3	6.4	4.1
25 to 49	4.0	3.1	2.0
50 to 69	2.9	2.2	1.4
70 to 89	2.2	1.7	1.1
90 to 109	1.8	1.4	0.9
110 to 149	1.3	1.0	0.6
150 to 200	1.0	0.7	0.5

Appendix B-Continued  
Section I

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4.5.1.2 Specified protection test. The container shall be subjected to the specified protection period requirements as specified in Table III. It is permissible to substitute an engine dummy or mock-up for the engine.

4.5.1.3 Handling and compatibility test. The container shall be subjected to a simulated use cycle constituting the handling operations, and compatibility performance. The cycle shall consist of packaging the flexible container into its designed shipping container from which it shall be removed, and assembled on the engine and transportation device as for shipment, and removed. The cycle shall be repeated three times.

4.5.1.4 Mobility test. The container shall have mobility characteristics conforming to the detail requirements for Type II, Group C Mobility of MIL-M-8090 when used in conjunction with the twin rail transportation device, with a load which simulates the weight, center of gravity location, and the adapter attachment points of the engine. The Belgian Blocks may be simulated by 2 x 4 inch wood members irregularly spaced 12 to 24 inches apart and long enough to exceed the trailer tire spread of the towing vehicle. The assembly shall be towed not less than 25 miles. The shipping device shall be mounted on the extreme rear end of a flat bed trailer which has standard shocks and leaf springs. The mounted engine shall be instrumented so that an accurate recording will be produced as to the shock forces introduced to the engine during this test. All other tests of MIL-M-8090 shall be waived.

4.5.1.5 Drop test. The engine and container when mounted on the transportation device shall be subjected to the drop test specified in MIL-T-4727. The shock forces during these tests shall not exceed the limit specified for the packaged engine.

4.5.1.6 Wind test. The engine and container when mounted on the transportation device shall be placed and secured on an open flat bed trailer. The assembly shall be transported at 50 to 60 miles per hour under weather conditions that would permit the container to maintain a temperature above 70°F, with ground wind velocity not higher than 15 miles per hour. During the test, the longitudinal axis of the container shall be parallel, 90°, 180°, and 270° angles (+ 10° angle tolerance) to the direction of the wind for a period of 30 minutes for each angle. It is permissible to substitute an engine dummy or mock-up in lieu of the engine.

4.5.1.7 Closure tests. Unless otherwise specified (see 6.2), the containers shall be conditioned for 24 hours according to Table VII.

TABLE VII. CLOSURE CONDITIONING TEMPERATURE		
Type	Low Temperature Test	Elevated Temperature Test
Type I	-20°F	+140°F
Type II	0°F	+140°F
Type III	+21°F	+140°F

At each of the above respective temperature levels, the closures shall be manually operated 20 times without failure, after which the container shall meet the requirements of 4.5.1.1. An operation shall consist of one complete opening followed by one complete closing. The closure shall be flexed as to develop at

Appendix B--Continued  
Section 1

MIL-C-9959B

least four curves along its length with an approximate radius of 12 inches and an arc of 90 degrees. Any binding, jamming, misalignment or other malfunction will be cause for rejection.

4.5.2 Barrier material and seam test (exception noted). The specimens shall be cut from a bolt of raw material selected at random from the lot to be checked.

4.5.2.1 Flame resistance. The barrier material containing a typical seam shall be tested in accordance with Federal Test Method Standard 406, Method 2022.

4.5.2.2 Abrasion resistance. The barrier material shall be tested for resistance to abrasion in accordance with Fed Test Method STD 191, Method 5306. The seamed specimen shall be positioned in the machine with the outer face in contact with the abradant conforming to P-P-121, Class 2, Grit #40 (1-1/2). The machine shall be operated 300 cycles.

4.5.2.3 Resistance to aging.

4.5.2.3.1 Barrier material. Three specimens, 12 x 12 inches, each containing a centralized seam shall be fabricated. The material for these specimens shall be cut from across the roll of material at points at least one yard apart. Each specimen shall be folded in at least two directions, and placed in the testing chamber. The specimens shall then be subjected to the accelerated aging test, FED TEST METHOD STD 191, Method 5852.

4.5.2.3.2 Closure material. A specimen shall consist of a 12 inch length of closure with each half bonded along the length of a 6 x 12 inch barrier material. Three specimens shall be subjected to the accelerated aging test, FED TEST METHOD STD 191, Method 5852.

4.5.2.4 Resistance to light. The barrier and closure shall be resistant to deterioration resulting from exposure to sunlight or bright daylight when tested in accordance with MIL-STD-810, Method 505, Procedure 1. Three test specimens shall be similar to the test specimen in 4.5.2.3.2.

4.5.2.5 Corrosiveness.

4.5.2.5.1 Test specimen. Two highly polished magnesium panels 2 x 4 x 1/16 inches shall be thoroughly cleaned and washed with dry cleaning solvent conforming to MIL-S-18718, then with alcohol, and allowed to dry. They shall then be individually placed in a 3 x 5 inch (inside dimensions) pouch fabricated from the barrier material. After insertion of the panel, the excess air shall be exhausted from the pouch by hand and the pouch seamed.

4.5.2.5.2 Procedure. The resultant assemblies shall be suspended vertically in a circulating air oven maintained at  $160 \pm 2^\circ\text{F}$  for 48 hours, after which the pouches shall be removed and allowed to come to room temperature. In this test method, a visible change in the surface finish, such as pitting or etching, or the formation of loose or granular particles shall constitute corrosion. Discoloration alone shall not be considered corrosion.

4.5.2.6 Water vapor transmission rate after flexing.

4.5.2.6.1 Flexing apparatus. Flexing apparatus shall be in accordance with Federal Test Method Standard 101, Method 2017.

Appendix B--Continued  
Section 1

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4.5.2.6.2 Preparation of test specimens. Four 8 x 12 inch specimens shall be cut from the barrier material for each grade to be tested, two in each principal direction. An additional two 9 x 13 inch specimens shall be cut, one in each principal direction. The latter set of samples shall be exposed to an atmosphere of 80 to 85% relative humidity at  $160 \pm 2^\circ\text{F}$  for 72 consecutive hours. At the completion of the exposure, the test specimens shall be returned to room conditions for four hours and then trimmed to produce specimens, each 8 x 12 inches. The test specimens, both unexposed and exposed, shall be prepared for flexing by seaming the two shorter edges of each sheet, thus producing an approximate 3-1/2 inch diameter cylinder or sleeve eight inches long. The seam shall be equal in fabrication and chemical characteristics to the seams of the container.

4.5.2.6.3 Room temperature flexing procedure. Flexing of two unexposed and two exposed specimens at room temperature prior to conducting water vapor transmission rate test shall be in accordance with Federal Test Method Standard 101, Method 2017. Each sample shall be flexed 1800 cycles at  $73 \pm 3.5^\circ\text{F}$ .

4.5.2.6.4 Low temperature flexing procedure. Two unexposed specimens shall be conditioned for at least 30 minutes at  $-20 \pm 2^\circ\text{F}$  for Grade A material,  $0 \pm 2^\circ\text{F}$  for Grade B material, and  $+20 \pm 2^\circ\text{F}$  for Grade C material. The flexing operation shall be conducted at  $-20 \pm 2^\circ\text{F}$  for Grade A material,  $0 \pm 2^\circ\text{F}$  for Grade B material, and  $+20 \pm 2^\circ\text{F}$  for Grade C material tested in accordance with Federal Test Method 101, Method 2017, using alternate short stroke operation.

4.5.2.6.5 Water vapor transmission rate procedure. After flexing of the specimen the sleeve shall be removed and the material, including the typical container seam, shall be tested in accordance with Federal Test Method Standard 101, Method 3030, Procedure A or equivalent using a temperature of  $73 \pm 2^\circ\text{F}$  and a relative humidity of  $50 \pm 2\%$ .

4.5.2.7 Resistance to blocking. The resistance to blocking shall be tested in accordance with Federal Test Method Standard 101, Method 3003, Procedure D.

4.5.2.8 Fluid resistance.

4.5.2.8.1 Barrier material. The fluid resistance of barrier material shall be tested in accordance with Federal Test Method Standard 101, Method 3015, using each of the fluids specified in Table I of this specification. The exposure time to the synthetic fluid shall be 72 hours at  $160^\circ\text{F}$ .

4.5.2.8.2 Closure material.

4.5.2.8.2.1 Test Specimens. A specimen shall be an eight inch length of the closure and barrier material. Each half of the closure shall be bonded to a 2 x 8 inch specimen of the barrier material. A specimen shall be prepared using each of the test fluids specified in Table II.

4.5.2.8.2.2 Procedure. Each specimen shall be partially submerged in one of the test fluids so that a specimen is tested in each. The specimens shall be placed in an oven maintained at  $150 \pm 2^\circ\text{F}$  for 24 hours. The specimen shall be removed, allowed to stabilize to room temperature, and then shall be pulled taut and examined for swelling, distortion between the halves of the closure, delamination of the bonded seam, and other visible defects.

Appendix B--Continued  
Section 1

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4.5.2.9 Impact puncture resistance. The impact puncture resistance of the barrier material shall be determined in accordance with Federal Test Method Standard 101, Method 2025, Procedure A. The sample load shall be 60 pounds, 30 pounds at each end of the rod, in lieu of the requirements of Method 2025.

4.5.2.10 Breaking strength (Barrier Material). The breaking strength of the material shall be determined in accordance with Federal Test Method Standard 191, Method 5100. Tests shall be conducted and the average breaking strength reported on five specimens in the machine direction and on five specimens in the cross direction on both unaged and aged specimens. Aged material shall be material which has been exposed to an atmosphere at 80 to 85% relative humidity and  $160 \pm 2^{\circ}\text{F}$  for 72 consecutive hours. Aging shall be accomplished on a large sheet of material. Individual test specimens shall then be cut from the aged sheet.

4.5.2.11 Tear strength (without seam). The barrier material shall be tested in accordance with Federal Test Method Standard 191, Method 5134. The tear strength shall conform to Table I.

4.5.2.12 Resistance to low temperature vibration (Barrier Material). The resistance to low temperature shall be conducted in accordance with Federal Test Method Standard 101, Method 2049 except the test specimens shall be at  $-65 \pm 3^{\circ}\text{F}$  for Grade A,  $-40 \pm 3^{\circ}\text{F}$  for Grade B, and  $-20 \pm 2^{\circ}\text{F}$  for Grade C, and the seam required to fabricate the specimen shall be representative of the seams used in the container fabrication. The seam shall be placed at the center line on one side of the loop.

4.5.2.13. Weight of barrier material. The weight of the barrier material per square yard shall be determined by weighing a unit area equivalent to one square yard or greater.

4.6 Examination of preparation for delivery. An inspection shall be made to verify compliance with the requirements specified in Section 5. Inspection of packing and marking requirements not identified to specifications referenced herein shall be in accordance with MIL-STD-105, using an AQL of 2.5% defective at inspection level S-4. The lot shall be the number of shipping containers fully prepared and submitted for acceptance at one time.

5. PREPARATION FOR DELIVERY

5.1 Levels of preservation and packaging. No applicable.

5.2 Levels of packing.

5.2.1 Level A. Each flexible container shall be folded and packed in overseas type exterior shipping containers conforming to PPP-B-576, PPP-B-591, or PPP-B-640 to prevent damage to the closure or barrier material. All sharp edges and protrusions shall be cushioned to prevent damage. As far as practical, the containers shall be of uniform shape and size, of minimum cube and tare consistent with the protection required, and contain one item each. The shipping containers shall be sealed and strapped in accordance with the applicable container specification or appendix thereto.

5.2.2 Level B. Packing shall be exactly the same as Level A (5.2.1).  
5.2.3 Level C. Container shall be used instead of overseas type.

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Section 1

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5.2.3 Level C. Packages which require overpacking for acceptance by the carrier shall be packed in exterior type shipping containers in a manner that will insure safe transportation at the lowest rate to the point of delivery. Containers shall meet Uniform Freight Classification Rules or regulations of other common carriers as applicable to the mode of transportation.

5.3 Marking. In addition to any special marking required by the contract or order, the pack shall be marked in accordance with the requirements of MIL-STD-129.

6. NOTES

6.1 Intended use. The flexible containers specified herein are intended to be used for the preservation, storage, and shipment of military items such as aircraft, marine, and vehicular engines. These containers do not afford physical protection and must be used in conjunction with some rigid supporting media such as frames, wheeled transporters, etc.

6.2 Ordering data. Purchasers should exercise any desired options offered herein and procurement documents should specify the following:

- a. Number and title of this specification.
- b. Type (see 1.2) and dimensions (see 3.3.1). In specifying dimensions, consideration should be given to the interchangeability of containers, i.e., to accommodate several basic items of similar exterior size.
- c. Level of packing desired (see Section 5).
- d. Size and quantity of desiccant receptacles (see 3.3.2.8).
- e. Size of letter for marking container (see 3.7).
- f. Size and type air valve (see 3.3.2.9).
- g. Relief valve (optional) flow rate and cracking pressure (see 3.3.2.1).
- h. Closure tests conditioning (see 4.5.1.7).
- i. Color (see 3.2.3).
- j. Approval first article drawings (3.3.1).
- k. Size and type of drain valve (see 3.3.2.10).



Appendix B--Continued  
Section 1

MIL-C-9959B

Custodian:

AIR FORCE - 69

Preparing activity:

AIR FORCE - 69

Project No. 8115-F326

Reviewer:

AIR FORCE - 11, 70, 71, 79, 84  
ARMY - GL

User:

AIR FORCE - 80

☆U.S. GOVERNMENT PRINTING OFFICE: 1974-603-125/814

Appendix B--Continued  
Section 1

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL		OMB Approval No. 22-R255
<b>INSTRUCTIONS:</b> The purpose of this form is to solicit beneficial comments which will help achieve procurement of suitable products at reasonable cost and minimum delay, or will otherwise enhance use of the document. DoD contractors, government activities, or manufacturers/ vendors who are prospective suppliers of the product are invited to submit comments to the government. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements. Attach any pertinent data which may be of use in improving this document. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity.		
DOCUMENT IDENTIFIER AND TITLE		
NAME OF ORGANIZATION AND ADDRESS	CONTRACT NUMBER	
	MATERIAL PROCURED UNDER A <input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT	
1. HAS ANY PART OF THE DOCUMENT CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE? A. GIVE PARAGRAPH NUMBER AND WORDING.		
B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES		
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3. IS THE DOCUMENT RESTRICTIVE? <input type="checkbox"/> YES <input type="checkbox"/> NO (If "Yes", in what way?)		
4. REMARKS		
SUBMITTED BY (Printed or typed name and address - Optional)		TELEPHONE NO.
		DATE

**DD FORM 1426**  
1 JAN 72

REPLACES EDITION OF 1 JAN 66 WHICH MAY BE USED

**S/N 0102-014-1002**

Appendix B--Continued  
Section 1

FOLD

POSTAGE AND FEES PAID



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PENALTY FOR PRIVATE USE \$300

HQ AFLC/DSPT  
Wright-Patterson AFB, OH 45433

FOLD

## CONSTRUCTION DELAY STORAGE PROBLEM SOLVED BY REUSABLE ZIPPERED CONTAINER

**C**ONSTRUCTION delays can pose a serious problem when valuable equipment arrives at the jobsite with nowhere to go. Equipment can be severely damaged or completely ruined if it is exposed to the elements with only a tarp or shipping crate for protection. Blowing dust and moisture condensation can play havoc with delicate equipment that is stored outside without adequate protection.

Recently a California power company was delayed in its construction of a new combined cycle power plant by the Environmental Protection Agency. By the time approvals for construction were finally granted, valuable and delicate gas turbines and generator units had arrived at the jobsite. This equipment required a closely controlled environment for storage and the manufacturer insisted that the equipment be stored in a dry nitrogen environment in order to keep the product warranties in effect.

Power plant engineers estimated that the equipment could not be installed in the new building for one year, and they began looking for methods of environmental controlled outdoor storage. The environmental protection was provided through reusable zippered Driguard containers. This packaging system was originally developed for the Air Force to package gas turbine engines as an alternative to metal cans.

In the case of this power plant equipment, which measures 27 feet long, 11 feet wide and 14 feet high, there were no alternatives to the flexible, zippered, vapor-sealed containers for protection against corrosion and contamination. A vapor-sealed metal container to do the same job would be more than five times the cost and many times the weight. Driguard containers for equipment of this size can be folded and placed in a cardboard carton



CONTAINER for power plant generator unit is inflated for pressure testing in Enviropak's El Segundo plant.

four by three by three feet and weigh only 200 pounds.

The containers are designed in two halves. The bottom half is placed on wooden skids; a crane is then used to lift the equipment onto the skids and the bottom half of the container. The crane then lifts the top half of the container by means of special lifting loops and lets it down over the equipment. The extruded plastic vapor- and pressure-sealed zipper is then zipped up around the equipment.

Container air valves are used to purge the container and pressurize it with dry nitrogen. In this case dry nitrogen was specified by the manufacturer. There are some other equally effective methods of preserv-

ing equipment in the Driguard containers. Bagged silica gel desiccant and forced-air dehumidifiers have been used effectively in preventing corrosion and contamination damage. Periodic inspection of the equipment is easy since the zipper can be opened and reclosed as many times as necessary.

According to Enviropak, Inc., of El Segundo, Calif., manufacturer of the Driguard containers, this system affords superior protection for outdoor and indoor storage of precision equipment. Enviropak's nylon-reinforced material will stand up extremely well under severe wind whipping and sunlight exposure. This is important in the bright California sun. ■

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Section 1

## BIG PRESERVATION PROBLEM SOLVED BY BIG BAG

**P**ROVIDING for the shipping and storage of a multi-million dollar precision electric generator rotor 48 feet long and 75 inches in diameter is a difficult job. But the problem was solved by a leading electrical equipment company through the use of a Driguard reusable zippered environmental container.

This packaging system was originally developed for the Air Force to package gas turbine engines as an alternative to metal cans. The bags proved so successful that their usage continues to expand into new applications. Currently the containers are being used to protect diesel engines, gear drives, electronic equipment, space vehicles and other precision equipment.

Driguard containers, manufactured by Enviropak, Inc., of El Segundo, Calif., offer advantages over

alternative methods of environmental protection. Zippered and flexible, the containers are less than one-third the cost of a vapor-sealed metal container. Driguard containers are only a fraction of the weight of metal containers, and they save many cubic feet by being close form-fitting. When not in use, the bags fold up and can be placed in a small box for additional economy in shipping and storage. And added feature is their reusability. In these times of extreme material shortages, large savings of packaging materials are achieved with multiple reuses of the bags. The rotor cover will be used 10 to 15 times.

After final inspection, the giant generator rotor is placed in a custom made Driguard environmental container. The container is desiccated with silica gel and zipped along the



top with a vapor-tight zipper. The rotor, complete with Driguard vapor barrier containers, is then lifted by crane with a sling around the mid section onto a specially constructed flat car. The rotor is secured in cradle blocks on the flat car. The barrier bag fits inside the shipping supports. Because the rotor is shipped on an open flat car, the resistance of the bag to wind, rain, mildew and sunlight makes it an optimum shipping container. ■

Ray

Appendix B  
Section 2

2010 W. 139th St., Gardena, Calif. 90249 (213) 538-2920



13 June 1977

Department of the Army  
Headquarters Tobyhanna Army Depot  
Tobyhanna Pa 18466

Attn: DRXTO-TP-P

Dear Mr. Hovey,

Thank you for your inquiry dated 31 May 1977. Global Chemical Systems, Inc. is pleased to respond with this quotation in support of protection of Army Medical Materiel for long term storage for the Office of the Surgeon General.

We propose to construct the shelter and power unit covers using Global 4051A. Samples and specification data are enclosed.

We propose to completely enclose each item using a two-piece cover. The bottom in each instance will extend upward six (6) inches. The two sections will be joined by U-39 Maxigrip closure manufactured from the same material. Please see the enclosed sample. The covers will enclose the skids. If the units need to be moved, the dollies may be placed under the skids against the cover material.

Further construction details proposed herein include an air valve, 12 each desiccant pouches for the shelters, accessible from the exterior of each cover for easy maintenance, and eight (8) such pouches for the power units.

We propose to provide several sleeves constructed into each cover for inlet and outlet for dynamic dehumidification. With this approach, each shelter may be used for either static or dynamic purposes based on your requirements relative to container content.

Each cover will also include a repair kit and a closure tool. Latches will be installed across the closure (zipper) to be used

Appendix B--Continued  
Section 2

- 2 -

as alignment points, secure the closure, and assure the air tightness of the cover.

Unit prices are:

- |   |           |
|---|-----------|
| 1. Shelter, expandable<br>12' 11" L, 7' 8" W, 8' 1" H | \$ 953.23 |
| 2. Shelter, multipurpose<br>12' L, 7' W, 7' 3" H      | 941.20    |
| 3. Power Unit<br>9' 6" L, 6' 2" W, 7' 8" H            | 718.65    |

All prices are FOB Los Angeles, commercial unit pack, Terms are 3/4 of 1% 10 Days, 1/2 of 1% 20 Days, Net 30 Days. Delivery 90 days ARO.

We trust that we have been fully responsive to your request. Should you have any questions or require further information, please contact the undersigned.

Sincerely,

  
E Brad Atwood  
Vice President

EBA/en  
enc

### **THE COMPANY...**

Originally incorporated as "Global Coatings Corporation" in 1965, this company has been devoted to developing optimum-efficiency preservation systems for high-value equipment. The success of the company in this purpose can be seen in four of its major products.

The initial product was a single-coat chemical system for the cocooning of such end products as helicopters. Under contract to both the U.S. Army and Navy, this system was perfected and is described in MIL-C-6977C. The company provided extensive field support in the utilization of this system through teams in the U.S. as well as foreign nations.

In 1967, the company developed and produced a system trademarked "Clear Tite Packaging System." the heart of this system is automated equipment, and, under contract with the U.S. Army, training and support of systems usage took place in the United States, Vietnam, and Okinawa. This product was followed in 1968-69 by an acrylic coating system that was easily removable by application of an alkali solution.

The company became "Global Chemical Systems, Inc." in 1973, and was approached by the U.S. Army with the idea of developing the most sophisticated storage system yet. This success in serving the military has confirmed the company's philosophy... that the success or failure of a company rests almost entirely with the skill and dedication of its people and their ability to recognize a customer's need and satisfy that need in an exemplary manner. Global Chemical Systems believes that customer satisfaction must be earned - then earned again - with the best possible service to the customer and the dedication of the company to do its job well.

### **THE PRODUCT...**

Global Chemical Systems is now the producer of the sophisticated "Redi-Cover" storage system. Developed under a series of U.S. military Research and Development contracts, this system is:

- easy to install and remove

- field repairable

- air tight

- tailored to form fit

- environmentally versatile

- COST EFFECTIVE.**

The basis of this cover system is a proprietary plastic compound possessing exceptional characteristics. To date, four basic materials have been developed using this compound - 4050, 4051A, 4062, and 4070. Each possesses unique properties and applications. All Global materials show remarkable chemical resistance, flexibility at temperature extremes, abrasion resistance, and excellent field life. Coupled with the patented "Maxi-Grip" air-tight closure/zipper system, Global Redi Covers provide the best protection for high-value equipment at the lowest cost.

In application, the system is "one-piece" and can be easily installed and removed repetitively by unskilled personnel. Global's current patterns include designs for both "flyable" configuration aircraft as well as semi-disassembled transport and/or long-term storage craft, in addition to cover systems for component parts. Provisions can be included in covers for visual inspection ports for the regular observation of equipment condition and, where applicable, the inclusion of dynamic dehumidifying systems.

In short, Global Chemical Systems and its Redi Cover are the picture of versatility. Cover systems have been developed for fixed and rotary-wing aircraft, engines, parts, and even locomotives. Recently the company was chosen to design and produce cover systems for atomic reactor components - Global Chemical Systems can design a program for your needs, too.



02 December 1976

# TECHNICAL BULLETIN

Global 4051-A laminated film used in the fabrication of Global "Redi-Covers".

## Product

Polyurethane Elastomer (Ether Base), laminated with Saran core.

## Form

Continuous film, 40" in width.

## Mil Thickness

Available from 18 to 30 mils.

## Weight

25 mils  $\pm$  2 pounds - 5.5 sq feet.

## Color

Clear or colored to the demand within limits of the formulation.

## Appearance

Finish may be either matte or smooth.

## Odor

Film has no odor or plasticizers present to effect attack substrate surfaces.

## Physical Properties

### Waterproofness

Material resists the penetration of water for a minimum of seventy two (72) hours.

Test Method 3017

Procedure B or C

Fed Std 101

### Greaseproofness

Film resists penetration of grease.

Test Method 3015

Procedure B or C

Fed Std 101

### Oil Resistance

The material subjected to oil as specified shows no leakage, swelling, shrinkage or other degradation

Test Method 3015

Fed Std 101

### Temperature Resistance

Global 4051-A resists blocking. Film is easily flexed at temperatures -40°F with no signs of cracking or delamination.

Test Method 3003

Procedure D

Fed Std 101

### Tensile Strength

Longitudinal - 2130 (psi)

Test Method ASTM-D412

Transverse - 1800 (psi)

### Tensile Strength after Hydrolytic

Longitudinal - loss of under 35%

Test Method ASTM-D412

Transverse - loss of under 35%

### Tensile Strength after Air Oven

Longitudinal - loss of 30%.

Test Method ASTM-D412

Transverse - loss of 20%.

### Elongation

Longitudinal - 150%

Test Method ASTM-D412

Transverse - 110%

### Puncture Resistance

No Puncture

Test Method 2025

Procedure A

Fed Std 101

### Tear Resistance

Longitudinal - 9.9 Max load (lbs).

Test Method ASTM-D1004

Transverse - 9.2 Max load (lbs).

### Volatility

Weight loss 0.36

Test Method ASTM-D1023

Procedure A

### Resistance to Light

No embrittlement, cracking or delamination.

Test Method 505

Procedure I

Mil Std 810

### Resistance to Abrasion

Wheel load at 500 grams with 2,000 revolutions. Result - .02 loss in grams.

Test Method 1091

Fed Std 406

### Water Vapor Transmission Rate

.08 grams in 24 hours.

Test Method 3030

Procedure A

Fed Std 101

### Resistance to Flame

Time to extinction - 10 seconds.

Test Method 2022

Fed Std 406

Special note: All materials tested were 25 mils thick.

Appendix B  
Section 3



**AIR CRUISERS COMPANY**

A DIVISION OF THE GARRETT CORPORATION

POST OFFICE BOX 180 • BELMAR, NEW JERSEY 07719 • TELEPHONE: 681-3527

July 1, 1977

Mr. Howard H. Hovey  
Department of the Army  
Tobyhanna Army Depot  
Tobyhanna, Pennsylvania 18466

Attention: DRXTO-TP-P

Dear Mr. Hovey:

We are pleased to enclose herewith two copies of our proposal detailing a suggested approach to the preservation, for long periods of storage, of Army Medical Materiel.

We stand ready to provide any additional assistance that might be needed in formulating your report to the Pentagon. Our involvement with the MUST program, dating back to its inception, allows us to make recommendations consistent with our awareness of the contents of these hospitals.

We look forward to assisting you in bringing this effort to an acceptable conclusion.

If we can be of any additional help, please feel free to call or write.

Very truly yours,

Leonard H. Mandel  
Sales Engineer

LHM/mfg  
Enclosures (2)

cc: Mr. W. Sullivan  
Mr. A. Beverage



Appendix B--Continued  
Section 3  
AIR CRUISERS COMPANY  
A DIVISION OF THE GARRETT CORPORATION

TECHNICAL PROPOSAL NO. 35319

ARMY MEDICAL MATERIEL  
LONG TERM STORAGE COVERS

Submitted to:

DEPARTMENT OF THE ARMY  
DARCOM Packaging, Storage  
and Containerization Center  
ATTN: DRXTC-TP-P

DATED: JUNE 29, 1977

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2.2.1	Humidity Control
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2.3	MATERIAL CONSIDERATIONS
2.3.1	Barrier Material
2.3.2	Chafe Protection Material
2.4	MAINTAINABILITY
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3.0	PROPOSED PROGRAM



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### 1.0 INTRODUCTION

In response to your letter dated May 31, 1977, we are pleased to offer the enclosed overview, covering our initial evaluation of requirements for effectively protecting Army medical materiel contained in mobile field hospitals. Air Cruisers has signed an exclusive manufacturing and sales agreement for North America with Driclad Ltd. of England. The attached brochure gives the details of the Driclad line which is comprised of environmental covers for protection of various items ranging from electronic equipment to helicopters. Driclad has 14 years of experience upon which to rely in developing and fabricating protective systems. Included are more than 80 combat tank covers specifically designed for, and deployed in the central European area. These covers have been in place for up to eight years and continue to provide assurance that combat readiness requirements can be met.

The Driclad product line is a self sustaining element of the overall Air Cruisers operation. The techniques employed in the manufacture of environmental covers is reflective of over thirty years of experience in the use of sophisticated adhesive bonding systems and heat seal technology.

As with numerous other major Government programs in which Air Cruisers has been a prime contractor, it is envisioned that the project management approach would be employed, thereby providing for efficient technical operation and optimum program control. Air Cruisers line organization as it currently functions is shown in the organizational chart (Appendix A). Assignment of program personnel would be accomplished at the time of contract award.

Appendix B--Continued  
Section 3

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With respect to cost, it should be understood that it would be unrealistic to provide specific dollar values without a full scale workup of all design considerations. However, in light of the nature of your requirement for sufficient data to be able to provide an analysis for the Pentagon, we feel confident in suggesting a price ranging from \$1600. to \$2000. per container.



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## 2.0 PROPOSED APPROACH

### 2.1 COVER SYSTEM DESIGN DESCRIPTION

The cover system is configured as a reuseable, flexible, water vapor-proof container to protect the Army medical materiel.

The cover envelope (barrier) material has a low water vapor transmission rate. The envelope is constructed as two separate sections which are joined by a PVC (polyvinyl chloride) closure (Ref. Figure 1), which consists of two interlocking PVC extrusions attached to the cover by dielectric welding. The installed closure has a W.V.T.R. (Water Vapor Transmission Rate) of .02 gm/lineal yd/24 hrs. at 23°C 50% RH, which is negligible. The closure has a service temperature range of -40°F to +140°F (See Table I for additional closure properties). Within the operating range of -10°F to +140°F the closure can be opened and closed at any point along its length. In the design of this cover the closure will circumvent the perimeter of the cover, forming an endless run to allow complete separation of the top and bottom halves of the cover. Because of the low separation force required to open the closure (15 lbs.) the cover design includes a rain flap/stress relief panel which isolates forces which would tend to separate the closure and provides protection from the weather. The rain flap/stress relief panel is welded to the top half of the cover and is mechanically secured to the bottom half of the cover with a series of interlocking assemblies. To provide additional abrasion and puncture protection



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a second heavy duty layer of material floor is permanently secured on the outside of the bottom half of the cover. The double floor minimizes migration of vapor from the ground or concrete slab.

Dielectric welding (R-F heat sealing) is the primary method used to bond storage cover seams. The welded seam has a strength higher than that of the material being sealed. As a standard production in-process check we make sample seams using production materials and tooling for testing to insure the integrity of the product in production. These tests include seam shear strength tests. If shear strength requirements are met vapor tightness of the seam is inherent. We also use adhesive bonding for the attachment of accessories and to join small areas where the heat sealing equipment cannot be accommodated.

An open cell structural foam is used as a spacer between the top of the hard container and the top half of the cover. Its purpose is to provide a 2 inch air space between the two elements which allows air to circulate and prevent the localized condensation of vapor from accumulating on the top of the hard container. Additionally, the spacer which is non-abrasive protects the cover from being abraded against the hard container even though the latter is to be padded.

The weight of the medical materiel and container is supported on two skids which are four inches wide and extend the entire length of the hard container. To spread the load over a larger area of the cover

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floor, two padded 3/4" plywood skids will be placed in the bottom of the cover. Each skid will be eight inches wide and will have 1/2 inch thick closed cell Ethafoam pads bonded to its underside. The foam will compensate for any localized protrusion (e.g. sharp stone) and in conjunction with the plywood will reduce the localized load on the floor of the cover to below 5 lbs/in<sup>2</sup>.

A tie down assembly with adjustable straps will be attached to the base of the cover, with metal hooks, spaced at 40 inch intervals to keep the cover from flapping in most environmental conditions. Although the cover is sized to fit the hard container with some fullness, 3" air space all around, the tie down straps also provide a fit adjustment capability. The concept also allows for replacement of the strap assembly with a cargo net which would attach to the same base hooks to provide a heavy duty tie down capability where wind velocities greater than 50 MPH are anticipated.

A weatherproof pocket will be bonded to the outside of the cover to hold the closure tool, instruction handbook and repair kit. Also it will enclose the electronic humidity sensing element leads.

Two grommets will be secured to the cover within the storage pocket to provide a passageway to the electronic humidity indicator sensing element lead wires. Considerations relating to humidity control and sensing are discussed later.

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In order to perform a pressure retention test an inlet fitting is bonded to the cover. To prevent moisture transmission a plug will be clamped in the end of the fitting when the cover is in use. When a test is to be performed the plug is replaced with an inflation hose fitting and pressure sensing element.

2.2 HUMIDITY CONTROL AND MONITORING CONSIDERATIONS

2.2.1 Humidity Control

The control of the humidity in our proposed cover system will be by a static system consisting of 5 lb. bags of desiccant distributed between the outside surface of the hard storage container and the cover barrier material. Static systems are less complex than dynamic dehumidification systems from installation and maintenance standpoints. Also the latter require continuous electrical power.

We have calculated that 145 bags are required for 5 years storage. To provide a safety margin we propose the installation of 180 bags. (This represents 900 lbs. of dry silica gel). These bags will be distributed throughout the enclosure by utilizing cotton bandoliers (10 each) which support the desiccant over the hard container.

2.2.2 Relative Humidity Monitoring

The monitoring of the relative humidity to verify that it is maintained below 50% will be accomplished by the use of two types of indicators. The first type, humidity indicator paper, is located

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Section 3

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in the cover and can be viewed through transparent windows. Two such assemblies are provided on opposite sides so that the one is always on the shaded side of the cover ( a true reading of the RH cannot be obtained in direct sunlight). Each is positioned at eye level for the convenience of monitoring personnel. The indicator paper changes color, from blue to pink as the RH rises above 50%.

The second, more accurate monitoring method employs a removeable, portable, battery operated humidity measuring instrument to a sensing element that is permanently mounted inside the cover. We propose the use of two elements per cover, one to be located on the top of the hard container and one to be located to monitor the RH inside the hard container which contains the packed medical equipment.

2.3 MATERIAL CONSIDERATIONS

2.3.1 Barrier Material

We have chosen a homogeneous, plasticized, extruded PVC (polyvinyl chloride) film, reinforced with a 3 oz/yd<sup>2</sup> polyester scrim (i.e. loosely woven fabric substrate). This material with a thickness of .040 inches provides a low water vapor transmission rate of .08 gms/100 in<sup>2</sup>/24 hrs. while providing excellent low temperature properties and a high degree of abrasion resistance. Table II summarizes the material properties.



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The total weight of the two piece cover using this material is approximately 200 lbs. with the top section weighing 150 lbs. and the bottom section weighing 50 lbs. This heavy grade material will provide excellent resistance to wind forces, and handling during installation. Another significant characteristic of the selected material is its ability to be bonded by dielectric welding, our primary assembly method, or by room-temperature-cure adhesives.

We have considered the use of reinforced urethane film as the barrier material but have reservations on using it because of its poor water vapor transmission rate of 2.5 gms/100 sq. in./24 hrs. as compared to our PVC barrier material with 0.08 gms/100 sq. in./24 hrs. This higher vapor rate would require the use of a dynamic dehumidification system which would have to be maintained and would be considerably more costly than the static (desiccant) system we propose. There are urethane laminates available which provide excellent vapor transmission protection, but they have yet to be proven for use in rugged durable covers.

2.3.2 Chafe Protection Material

We have chosen another reinforced PVC material for a secondary floor which is on the outside of the bottom half of the cover. This material, 5 oz/yd<sup>2</sup> polyester woven fabric coated with 12 oz. of PVC, will provide excellent chafe and puncture resistance protection of the bottom of the cover where most wear can be anticipated.



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## 2.4 MAINTAINABILITY

### 2.4.1 Inspection

The cover should be inspected weekly or after any abnormally harsh weather to insure it has not been damaged and that the relative humidity inside is below 50%. This is accomplished by visual inspection of the cover and checking the humidity indicator papers which are installed in windows. At a frequency of approximately every 30 days the humidity should be double checked with the electronic sensor.

### 2.4.2 Repair and Maintenance

Any puncture or tear can be patched using the same material as in the cover by bonding with a brush applied activated urethane adhesive which cures at room temperature.

It is unlikely that the closure would be damaged to the extent that it would be inoperable. Most closure maintenance should be limited to reclosing a portion of the closure which has opened. If the closure has been damaged by mishandling to a state that it will not stay closed a closure slider can be locked on at the damaged area to secure the closure.

Both the cover material and the closure can be cleaned with Isopropyl alcohol. A special diluted solution of silicone lubricant is recommended for cleaning the sealing track of the closure. The solution is brushed on, and after the solvent evaporates, leaves a thin film of silicone which makes opening and closing of the closure

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easier and improves sealing by eliminating dirt from the tracks.

In the event that the inside of the cover has been exposed to water vapor due to damage of the cover it will be necessary to replace the desiccant and remove all standing water and wet spots. The former is easily accomplished by removing the top of the cover, replacing the desiccant bandoliers with new ones, replacing the top of the cover and sealing the closure. The exposed desiccant can be re-stored to its dry state by oven drying and can be saved for future use.



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### 3.0 PROPOSED PROGRAM

#### GENERAL

Descriptions of the various efforts necessary to develop an operational packaging system follow. This section of our proposal is presented as an outline which will be used as the basis for preparation of a program plan as the initial project planning effort. We anticipate that the Engineering Program will require approximately 3 months to complete.

#### PHASE I - System Concept Finalization, Design and Analysis

Major subtasks to be accomplished during this phase of the program include:

- a. Definition of a detailed problem statement, or end item specification.
- b. Conduct of a detailed appraisal of the proposed concept against the performance and operational criteria defined in the problem statement  
This subtask is essentially an in-depth follow thru to the preliminary analysis presented in Section II of our proposal and will result in a finalized cover system concept which will be used as the basis for subsequent design and analysis tasks.
- c. Preparation of a parts list and drawing tree as the baseline for detailed design of the covers.
- d. Finalization of equipment-to-cover interface details.
- e. Preparation of fabrication drawings and patterns supporting design analysis rationale and calculations.





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- f. Design review with the Army.

PHASE II - Test/Evaluation

a. Validation

Subsequent to completion of the design phase, prototypes of the various cover systems will be fabricated to verify patterns, permit assessment of installation/containment procedures, and verify adequacy of ancilliary items (e.g. adjustment straps, proper location of chafe doubler panels, humidity indicator location, desiccant bandolier placement details, etc.).

The above will be performed on site using actual medical materiel containers.

b. Design Finalization

Subsequent to the fit check any design refinements disclosed will be factored into the design definition documents (drawings, patterns). Tooling and fixture setups for quantity production will be established and the cover system designs will be released for fabrication of production quantities.

PHASE III - Production

A first article cover installation of each configuration will be fabricated by production operators using production tooling and methods. These end items will then be subjected to a physical conformity verification against the production baseline drawing/data package prior to proceeding with fabrication of additional cover systems.

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Section 3

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AIR CRUISERS COMPANY  
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APPENDIX A

Appendix B--Continued

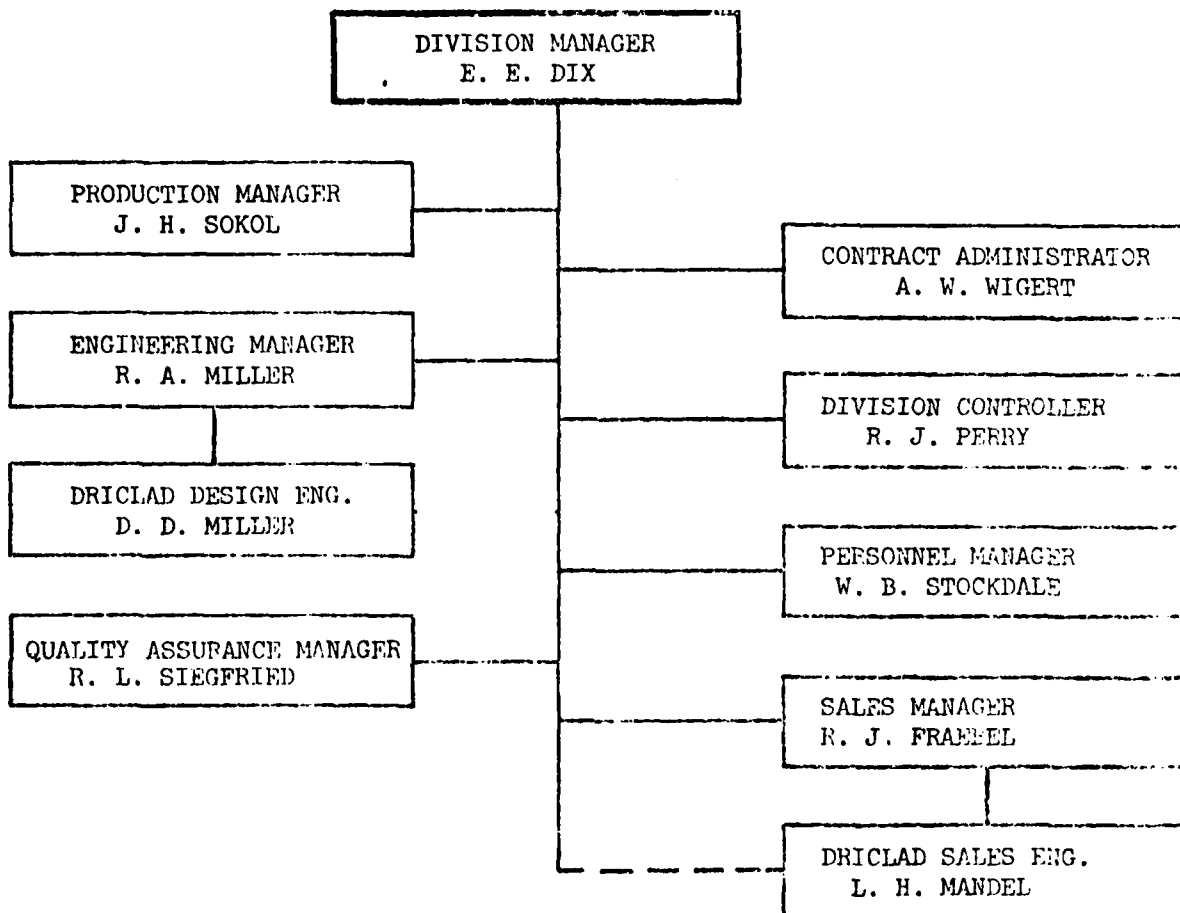
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AIR CRUISERS ORGANIZATIONAL CHART

Appendix B--Continued  
Section 3



AIR CRUISERS COMPANY  
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APPENDIX B

TABLE I PHYSICAL PROPERTIES CLOSURE

PROPERTIES	REQUIREMENT	TEST STANDARD	
Service Temperature of	-40 to +140	None	
Operating Temperature of	-10 to +140	None	
Water Vapor Transmission Rate (W.V.T.R.) gms/lineal/24 hrs.	.02	FED-STD-101 Method 330	
Separation Strength	15 lbs.	None	Load is applied to center of a 5 inch long specimen, strain rate is 4.5"/min.
Weight lbs/lineal	.30 lbs.	None	
Resistance to Aging	No separation or cracking	FED-STD-191 Method 5852	

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TABLE II PHYSICAL PROPERTIES BARRIER MATERIAL

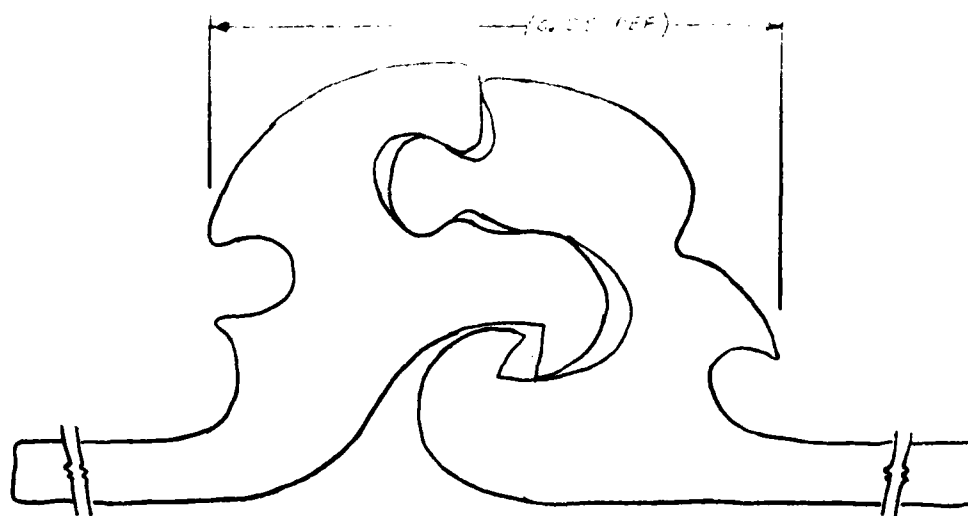
PROPERTIES	REQUIREMENT	TEST STANDARD	REMARKS
Water Vapor Transmission Rate (W.V.T.R.) gms/100 sq. in/24 hrs. @ 73° - 20° F & 50% R-H	.08	FED-STD-101 Method 330 Procedure "A"	
Breaking Strength	200 lbs. warp 200 lbs. fill	FED-STD-191 Method 5100	
Tear Resistance	30 lbs. warp 30 lbs. fill	FED-STD-191 Method 5134	
Puncture Resistance	No puncture	FED-STD-101 Method 2025	The sample load shall be 60 pounds, 30 pounds at each end of the rod.
Resistance to Abrasion Avg. loss in grams per 2000 wear cycles	.07	FED-STD-406 Method 1091	The wheel load is to be 500 gms and the number of revolutions is to be 2000
Resistance to Blocking	No blocking, delamination, or rupture	FED-STD-191 Method 3003	Procedure D
Flexibility	1.90 + 0.20	FED-STD-191 Method 5206-1	
Ply Separation	Plies shall not delaminate	FED-STD-101 Method 2017	Use a 6" stroke and a rotation of 440°.
Resistance to Low Temperature Stiffening	0° F	ASTM Test Method D3388	The material is to remain flexible at the the temperature specified.
Flame Resistance	5 sec.	FED-STD-406 Method 2022	

TABLE II PHYSICAL PROPERTIES BARRIER MATERIAL  
(CONTINUED)

PROPERTIES	REQUIREMENT	TEST STANDARD	REMARKS
Resistance to Light	No embrittlement, cracking or delamination	MIL-STD-810 Method 505	Procedure I
Resistance to Aging	No delamination, seam separation or cracking	FED-TTD-191 Method 5852	
Bond Strength RF Bonds Heat Seal Bonds	Seam strength to be 80% material tensile strength	ASTM Test Method D412	
Breaking Strength After Hydrolytic % Change from Original	-20%	FED-STD-191 Method 5100 and ASTM Aging Test D3137	
Weight lbs/yd <sup>2</sup>	2.5	None	Weigh a unit area equivalent to 1 square yard

Section 1

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DETAIL C

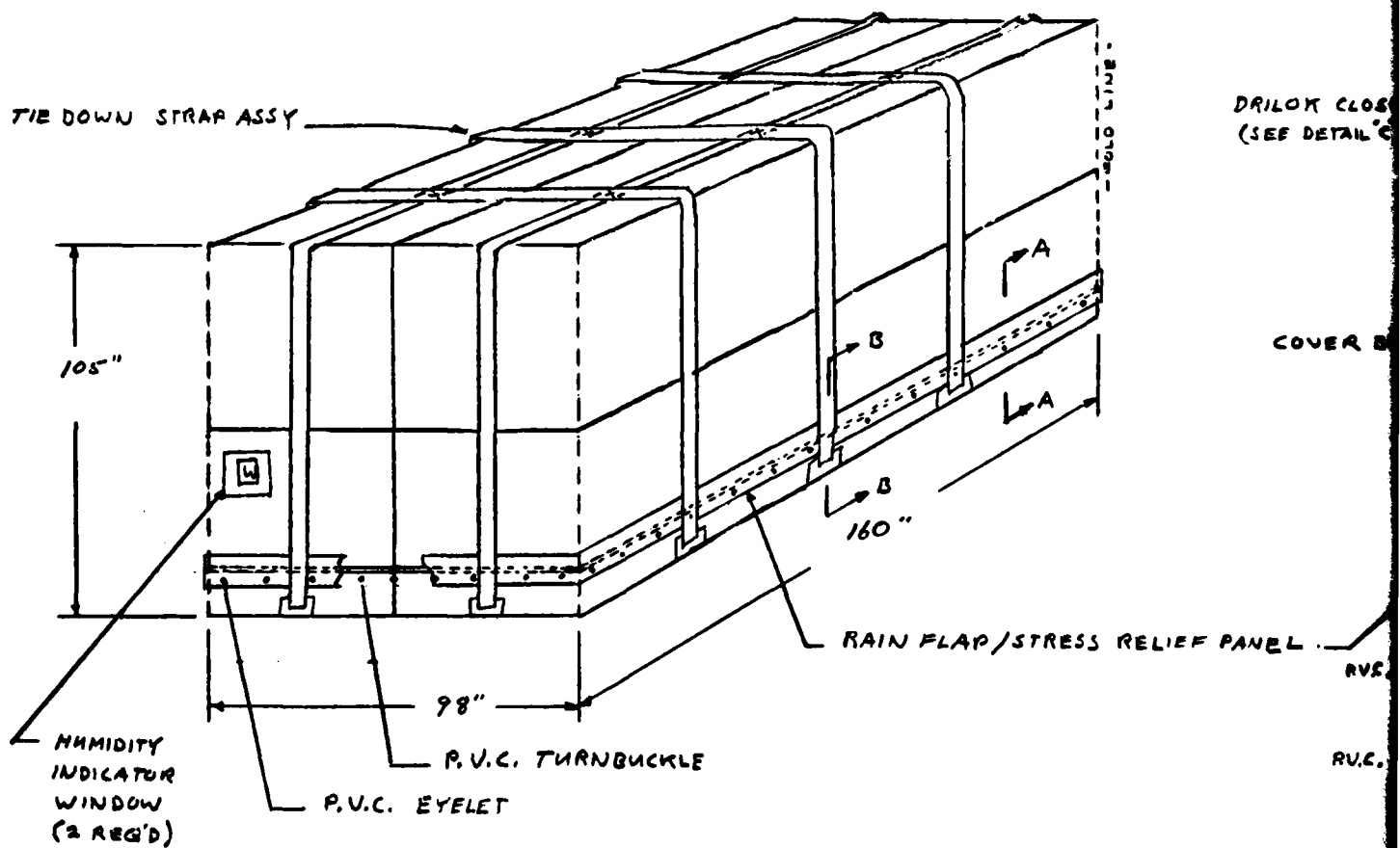
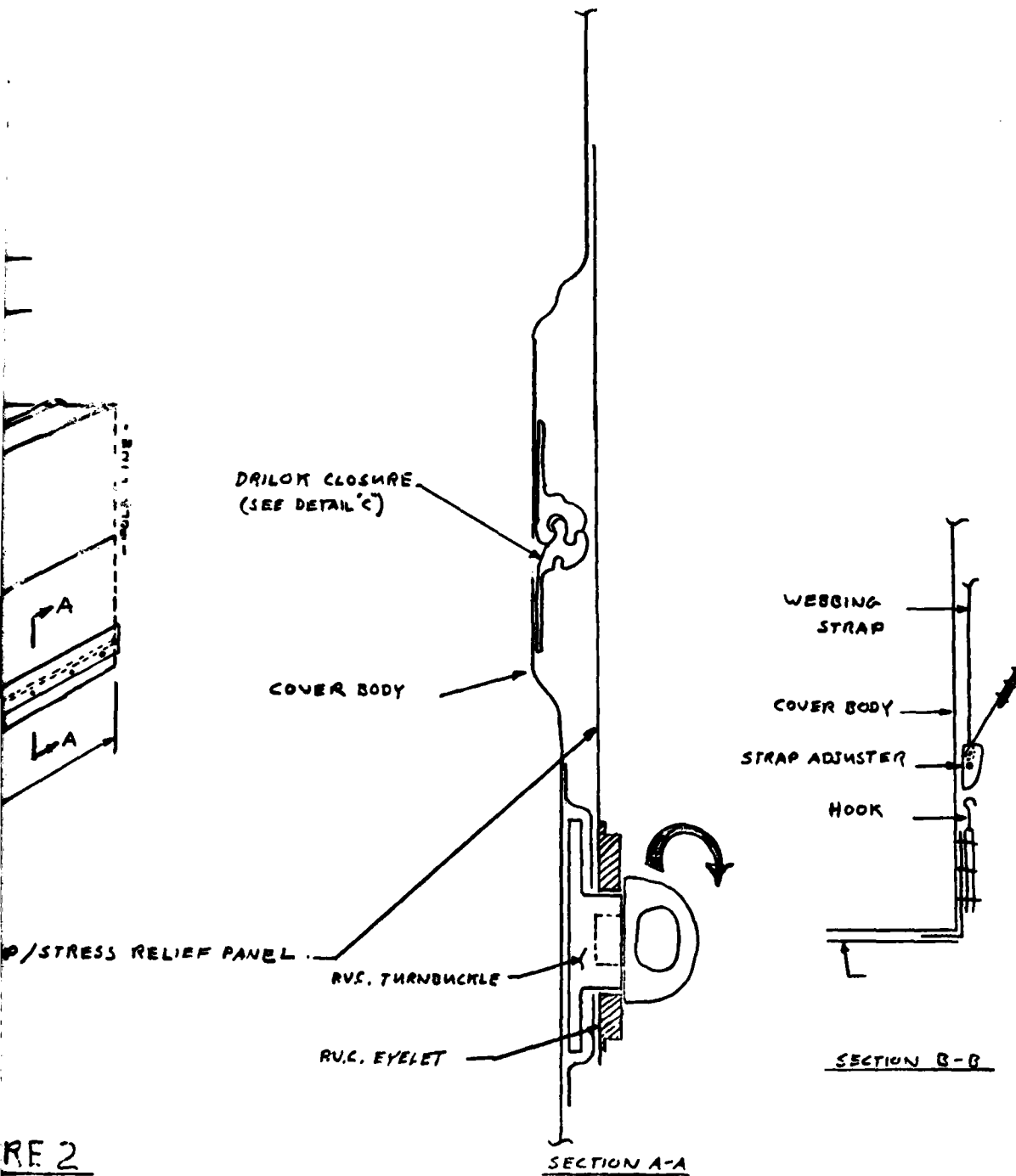


FIGURE 2





Appendix B  
Section 4

***b+p*** *Brooks & Perkins, Incorporated*

*Advanced Structures Division • 12633 Inkster Road • Livonia, Michigan 48150 • (313) 522-2000*

June 29, 1977

Department of the Army  
Headquarters Tobyhanna Army Depot  
Tobyhanna, Pennsylvania 18466

Attention: DRXTO-TP-P (Mr. Raymond L. Hays)

Subject: Airflex Container, Flexible  
Barrier Enclosure

Gentlemen:

1. Reference is made to letter your Headquarters dated 31 May 1977, pertaining to flexible barrier enclosures for shelters and power packs.
2. Attached hereto is Brooks & Perkins No. 793 Proposal - which offers three (3) concepts designed to provide long-term (5 years plus) storage and a controlled humidity environment.
3. Three approaches to the problem of providing complete long-term storage are offered and quoted, in order to furnish your office with a choice and trade-offs ... should a particular design give certain advantages, depending on location and condition of storage site.
4. Due to the relative small size variance between the two shelters and the power pack units described in Inclosure#1, to your 31 May letter, and the flexibility of the Airflex Type Container ... one size is offered which will fit and protect all three pieces of equipment.
5. Cost for each Airflex Container System - based on a total quantity of thirty-eight (38) Containers is:

Concept No. 1	\$2,500.00/each
Concept No. 2	\$3,530.98/each
Concept No. 3	\$3,328.95/each

Appendix B--Continued  
Section 4

***b+p*** Brooks & Perkins, Incorporated

Page 2.  
Airflex Container, Flexible  
Barrier Enclosure

6. Included with the attached proposal is a sketch of the pump and vacuum system - which will evacuate air and maintain a constant vacuum in all (38) Airflex Containers, when stored in close proximity to each other.

Cost of pump and vacuum system (1)                      \$1,500.00

7. Delivery can be made 110 days after receipt of order. All prices are FOB our Livonia, Michigan plant.
8. In the event you have any questions or desire additional information on the Airflex Container concept, please contact Charles E. Carlsen, Air Cargo Systems or the undersigned.

BROOKS & PERKINS, INC.

  
A. A. Lefebvre  
Manager, Sales Administration

CEC/sm

Appendix B--Continued  
Section 4

**(b+p)** *Brooks & Perkins, Incorporated*

TP 793

Prepared for:

U.S. Army  
Hdq. Tobyhanna Army Depot  
Tobyhanna, Pennsylvania

Prepared by:

Brooks & Perkins, Inc.  
12633 Inkster Road  
Livonia, MI 48150

PROPOSAL FOR  
AIRFLEX FLEXIBLE  
BARRIER ENCLOSURES

**b+p** *Brooks & Perkins, Incorporated*

AIRFLEX FLEXIBLE BARRIER ENCLOSURES

Brooks & Perkins is pleased to present the following concepts for a series of enclosures to provide protection for the Surgeon General shelters and power units. The three concepts consist of: Concepts No. 1 and 3 which are systems that may be easily assembled in the field, and Concept No. 2 which is a semi-permanent type of installation. All three concepts utilize Brooks & Perkins Airflex flexible bag enclosures to provide the necessary environmental protection. This preliminary proposal is designed to submit some basic design concepts and show how the Airflex enclosure may be adapted to this requirement. From these concepts and with the assistance of the U.S. Army, Brooks & Perkins is confident that a satisfactory storage system could be supplied.

CONCEPT NO. 1

The enclosed sketch of the system shows the basic configuration on sheet 1. The one basic size of 15' long by 8.2' wide by 8.5' high was selected which would accommodate all three storage units, however any size may be furnished. The system consists of a sealing frame member around the base, a flexible base sheet and a flexible bag enclosure.

The sealing frame is constructed from split tubular members which may be assembled at the site. The corners and side members are joined by couplers to provide a continuous sealing frame around the base. The sealing frame is placed on the ground at the designated area and the base sheet rim section is installed into the sealing frame groove. The base sheet will be supplied with 12-inch wide reinforcement strips bonded to the Airflex sheet in the area where the structure rests. The formed rim section is then sealed by the inflatable tube section of the enclosure bag. The sealing section of the bag is inflated to 13 psi which then forms an airtight enclosure around the unit to be protected.

The enclosure bag has a vacuum line connection to withdraw the inside air until the described level of vacuum is reached. The amount of pressure difference, of course, will depend upon the structural strength of the item, and probably, in this case, will be very small. This method permits most of the moist inside air to be removed and the flexible Airflex material to contact and restrain the item to the ground by the outside air pressure. The sealing area extends approximately 12-18 inches outside of the storage unit and as the inside air is removed, the two flexible membranes conform to the ground and therefor prevent any pulling force on the sealing frame.

(b+p) *Brooks & Perkins, Incorporated*

Concept No. 1, cont'd.

The Airflex enclosure system is adaptable to various types of humidity control that is required. The enclosure may be purged with dry air or nitrogen as the unit is prepared for storage. Humidity control system also may be connected to the bag to maintain the required humidity level. However, since the Airflex material has a WVTR of 0.015 grams/100 sq in/24 hours, the humidity may be easily controlled. Inspection windows may be provided in the bag to observe humidity indicators placed inside the enclosure.

CONCEPT NO. 2

This concept is a proposed method to apply the basic Airflex approach described to a semi-permanent installation. This approach would require a site preparation but would offer several advantages that should be considered in order to determine the most advantageous system for the storage and deployment of the medical material.

The sealing channel for the Airflex enclosure is secured in a concrete skirt which forms a rest pad for the storage units. This permits the sealing area to be flush with the ground and, therefore, provide an easier transfer of the equipment onto/off the site. If the units must be rapidly deployed, this method would be more desirable for use with the dolly sets.

Since the sealing channel is embedded in the epoxy filled trough, it is therefore protected from damage and does not have to be disassembled for equipment removal. The base sheet sealing rim is also inserted into the channel and the outer bag inflated to form the sealed connection as in the first concept.

CONCEPT NO. 3

Concept No. 3 is identical to No. 1 except the sealing channel has been attached to a .25" thick steel base plate. If soil conditions prohibit the storage units from resting on the ground over long periods, then the addition of the bearing plate may be required. This method would require the four corners to be field welded to form a continuous base plate and therefore require a ramp for roll-on/roll-off operation of the storage units. This disadvantage would have to be weighed against the individual site location.

All other operations of the installation of base membrane and outer bag enclosure would be the same as previously described.

**(b+p)** *Brooks & Perkins, Incorporated*

#### VACUUM CONTROL

Figure 4 shows a proposed method for manual/automatic vacuum control of the Airflex storage system. The individual units up to the total of 38 may be positioned at the storage site and connected to a vacuum reservoir with a vacuum control, pump with automatic controls to maintain the special vacuum level. Each Airflex unit should have a mercury manometer or vacuum gage with shut-off valves to allow a single unit to be removed from the system. The proposed layouts are the items suggested for the proposal at this time.

Additional features may be added as a more firm requirement is established, climactic conditions at the proposed storage sites and other considerations that may be required to provide the desired control system.

Appendix B--Continued  
Section 4

AIRFLEX STORAGE SYSTEM FOR SHELTER UNIT  
CONCEPT NO. 1

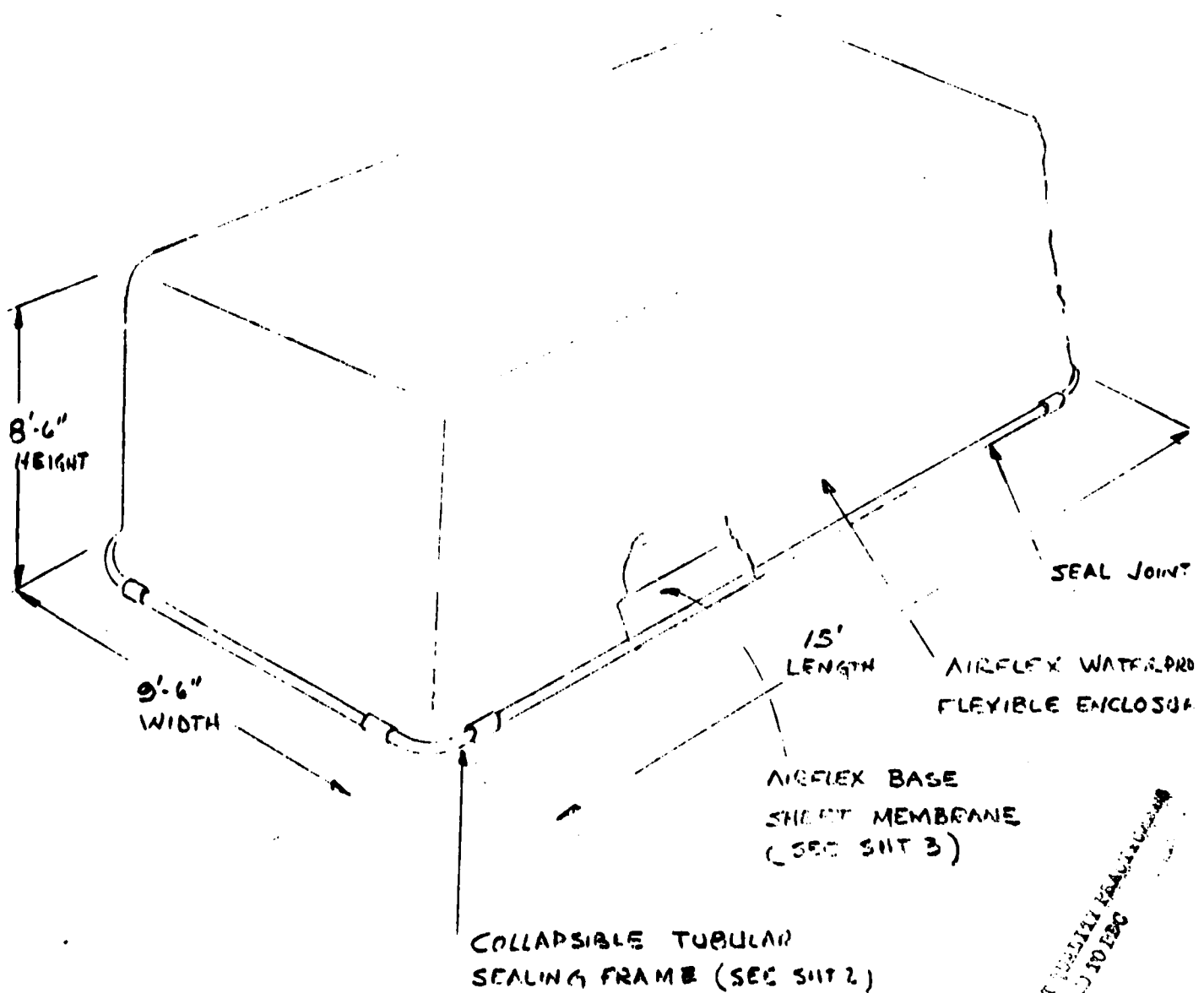
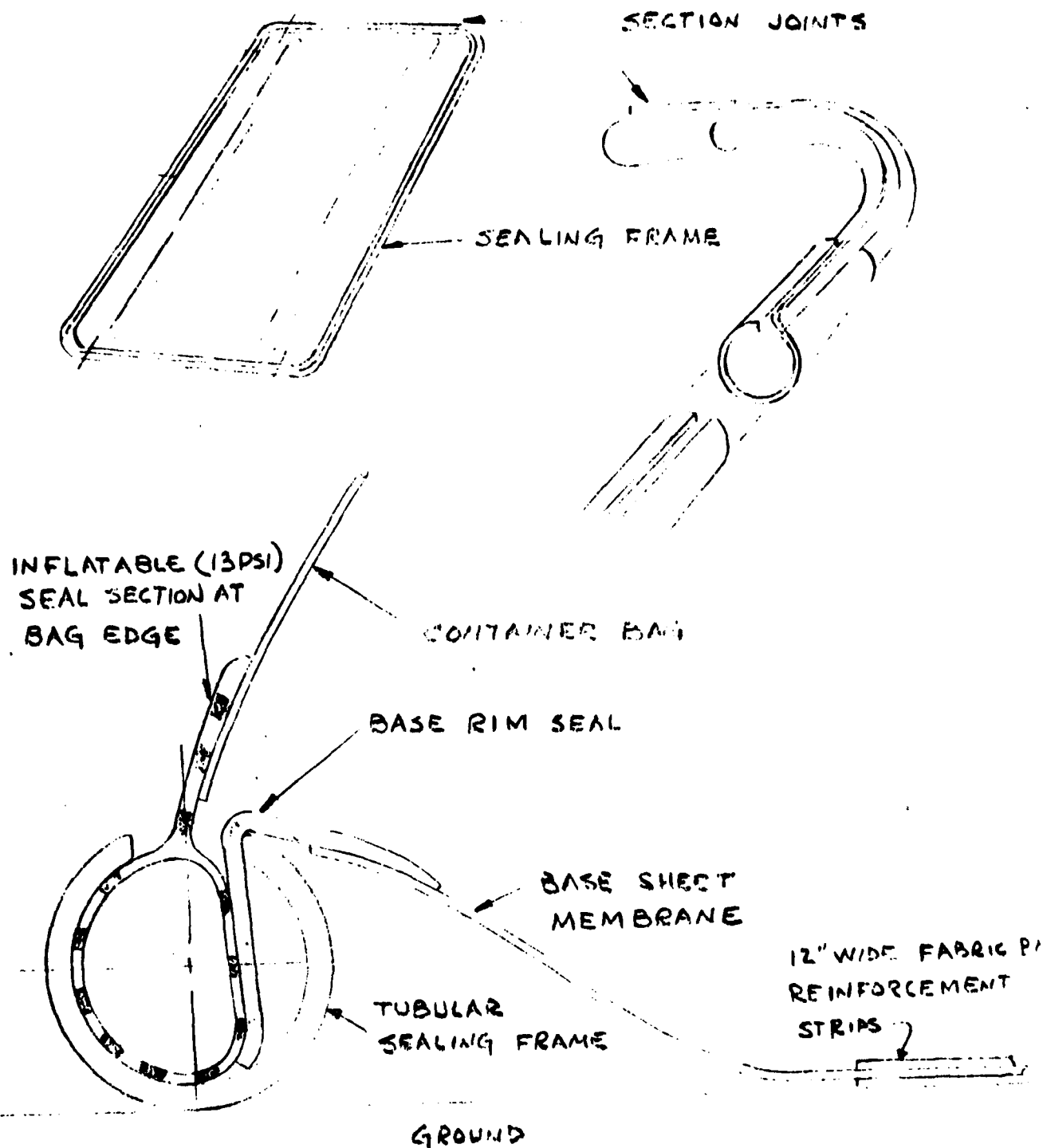


FIGURE 1 - CONCEPT NO. 1 (SHEET 1 OF 3)





BASIC ARRANGEMENT OF SEALING FRAME

FIGURE 1 - CONCEPT NO. 1 (SHT 2 OF 3)

CONCEPT NO 1

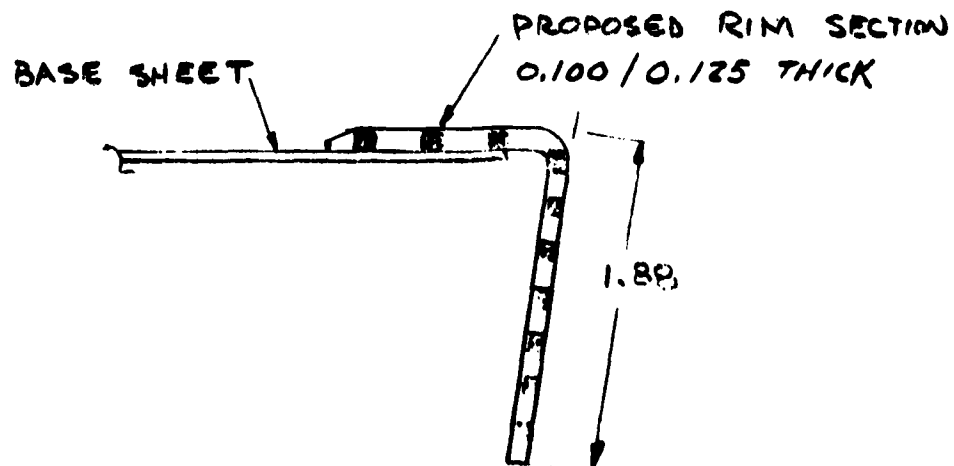
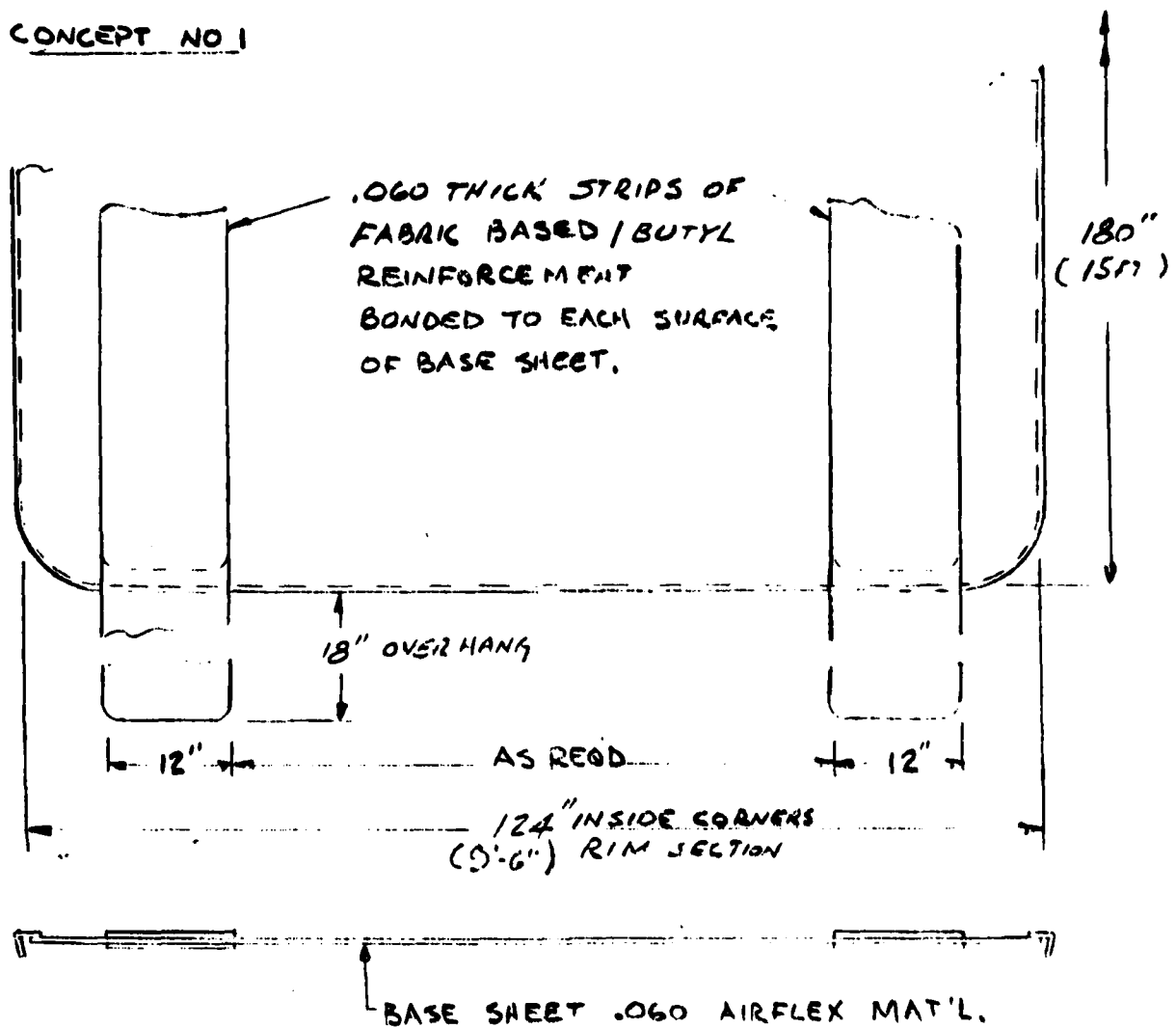


FIGURE 1 - CONCEPT NO 1 SHT 3 OF 3

# AIR FLEX STORAGE SYSTEM FOR SHELTER UNITS

## CONCEPT NO. 2

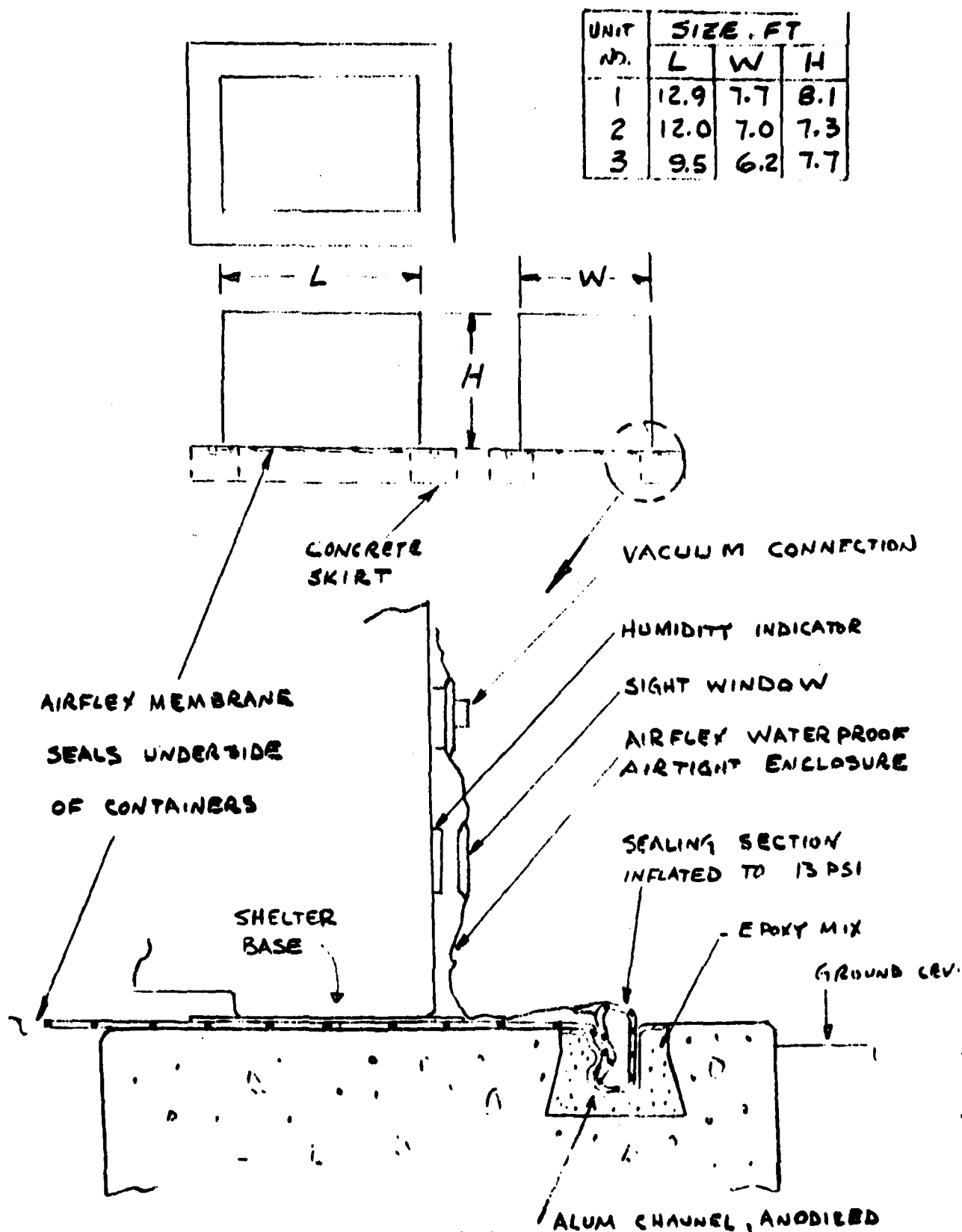


FIGURE 2 - CONCEPT NO. 2

# AIRFLEX STORAGE SYSTEM FOR SHELTER TYPE UNITS

## CONCEPT NO 3

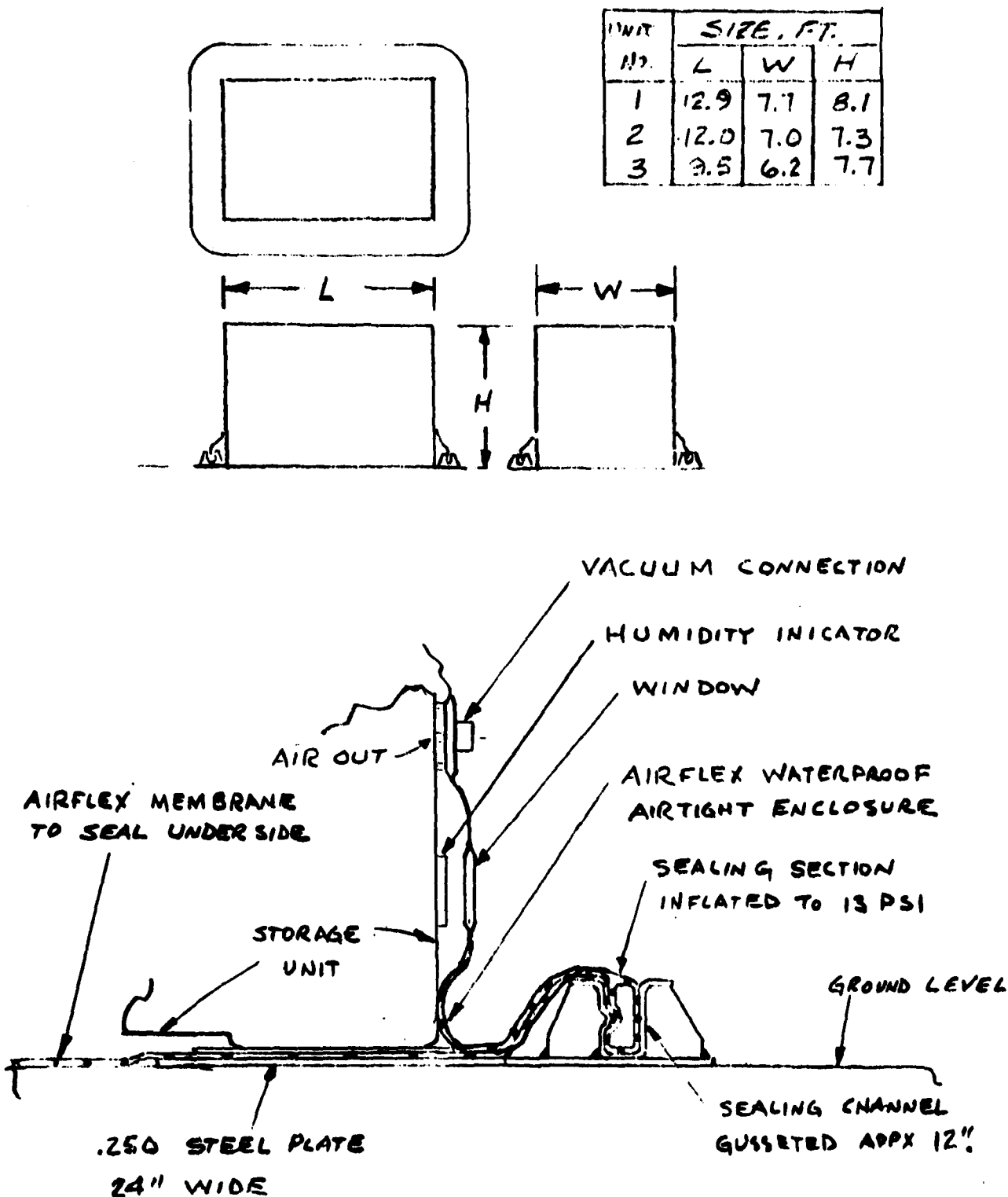
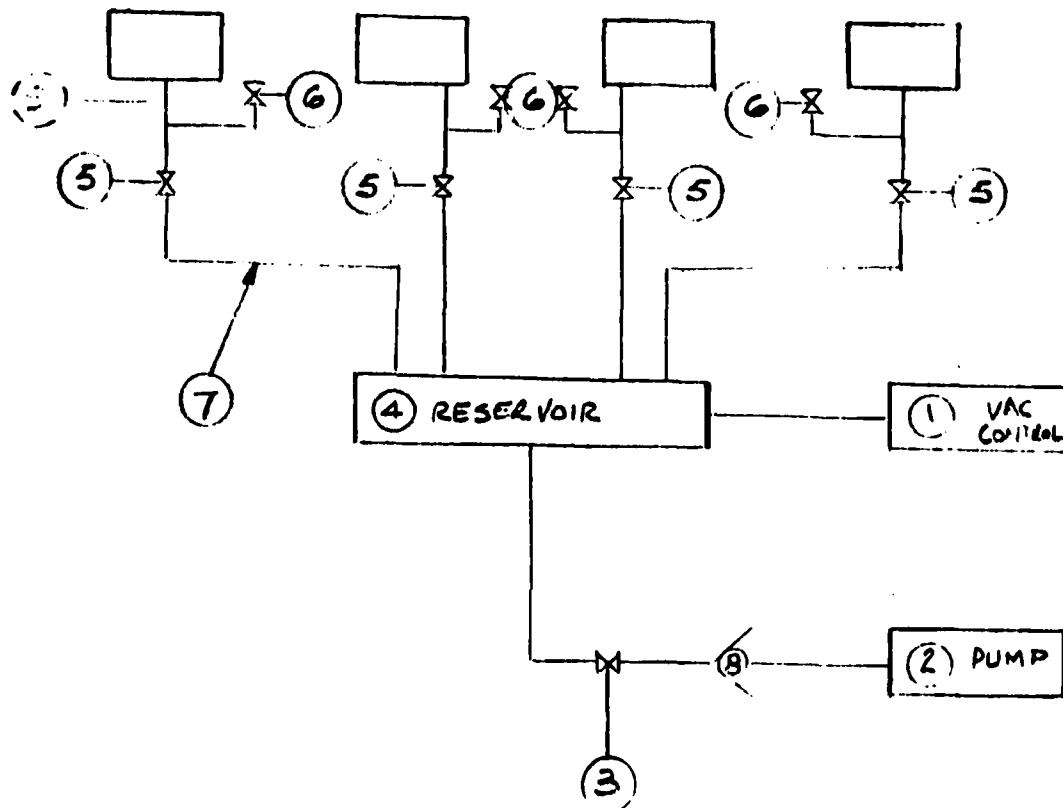


FIGURE 3 - CONCEPT NO. 3

Appendix B--Continued  
Section 4

AIRFLEX STORAGE SYSTEM - TYPE 30, UNITS



LEGEND

- |                    |   |
|--------------------|---|
| (1) VACUUM CONTROL | (5) SHUT OFF VALVE                                    |
| (2) VACUUM PUMP    | (6) BLEED VALVE                                       |
| (3) SOLENOID VALVE | (7) LINE  |
| (4) RESERVOIR      | (8) CHECK VALVE                                       |
|                    | (9) MERCURY MANOMETER OR<br>PRESSURE GAUGE (OPTIONAL) |

FIGURE 4 - VACUUM CONTROL SYSTEM

## Appendix C

### PURCHASE DESCRIPTION

#### FLEXIBLE BARRIER ENCLOSURES FOR STORAGE OF ARMY MEDICAL MATERIEL SHELTERS AND POWER UNITS

##### 1. SCOPE.

1.1 This Purchase Description covers the requirements for flexible barrier enclosures to be used to provide environmental protection for long-term storage of Army Medical Materiel expandable and multipurpose shelters and power units.

##### 2. APPLICABLE DOCUMENTS.

2.1 Government documents. The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this purchase description to extent specified herein.

##### SPECIFICATIONS

###### Federal

PPP-B-601	Boxes, Wood, Cleated-Plywood
PPP-B-636	Boxes, Shipping, Fiberboard
PPP-B-640	Boxes, Fiberboard, Corrugated, Triple-Wall

##### STANDARDS

###### Federal

FED-STD-101	Preservation, Packaging, and Packing Materials: Test Procedures
FED-STD-191	Textile Test Methods
FED-STD-406	Plastics, Methods of Testing

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### Military

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-810	Environmental Test Methods
MIL-STD-831	Test Reports, Preparation of
MIL-STD-1188	Commercial Packaging of Supplies and Equipment

(Copies of specifications and standards required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

### LAWS AND REGULATIONS

Occupational Safety and Health Act of 1970 (Public Law 91-596)

2.2 Non-Government documents. The following documents form a part of the specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

### OTHER PUBLICATIONS

#### American Society for Testing and Materials

D412	Tension Testing of Vulcanized Rubber
D624	Tear Resistance of Vulcanized Rubber
D1004	Test for Tear Resistance of Plastic Film and Sheeting

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(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

### 3. REQUIREMENTS.

3.1 Item definition. The flexible barrier enclosures covered by this purchase description shall provide environmental protection to Army Medical Materiel expandable and multipurpose shelters and power units during long-term storage.

3.1.1 Major component list. Major components making up each enclosure shall be as follows:

- Flexible barrier cover
- Electronic humidity sensing equipment
- Base enclosure
- Ancillary equipment

3.1.2 Government-furnished property list. Government-furnished property shall be as specified in the contract (see 6.2).

### 3.2 Characteristics.

3.2.1 Performance. The barrier enclosures shall provide long-term storage (5-year minimum) and a controlled humidity environment for Army Medical expandable and multi-purpose shelters and power units.

#### 3.2.2 Physical characteristics.

3.2.2.1 Size. The flexible barrier enclosures shall be generally form-fitting (see 3.3.2) to conform to the following shelter/power unit sizes (see 6.2):



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	<u>Length</u>	<u>Width</u>	<u>Height</u>
Shelter, expandable	12'11"	7'8"	8'1"
Shelter, multi-purpose	12'0"	7'0"	7'3"
Power Unit	9'6"	6'2"	7'8"

3.2.3 Environmental conditions. The flexible barrier enclosures shall be capable of providing water-vaporproof protection to the enclosed shelter/power unit for a minimum of 5 years in the most severe known or anticipated environmental/climatic conditions of open storage.

3.3 Design and construction.

3.3.1 Patterns. The patterns for the flexible barrier enclosures shall be taken directly from the shelters and power units. Access to the shelters and power units shall be as stipulated in the contract or order (see 6.2).

3.3.2 Fit. The flexible barrier enclosures shall be generally form-fitting without obstructing the passage of air currents and shall be sufficiently loose at extremities to relieve any strain on the closure and to ease the installation process.

3.3.3 Humidity control. The flexible barrier enclosures shall be designed for both static and dynamic dehumidification.

3.3.3.1 Dehumidification equipment attachment. Inlet and outlet ports for attachment of periferal dehumidification equipment shall be incorporated into the flexible barrier cover and shall be located at opposite ends of the enclosed shelter/power unit. The quantity and size of the ports shall be as specified in the contract or order (see 6.2).

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3.3.3.2 Humidity measuring meter attachment. Terminals shall be mounted in the flexible barrier cover for attachment of an electronic humidity measuring meter (see 3.4.2).

3.3.4 Closure. There shall be no gaps in the closure and all joints shall have smooth surfaces. The performance of the closure shall require no tape or sealant. When design of the flexible barrier enclosure requires a manually-operated closure for rapid installation/removal and sealing of the enclosure, the closure shall be a "stand up" type in lieu of a "layflat" closure.

3.3.4.1 Support straps. The closure shall be supported along its course by sets of straps made of reinforced flexible barrier cover material anchored to the cover on either side of the closure and designed to be snap-closed over the closure with quick disconnects. The straps shall be fitted in a manner to assure relieving of the stress from the closure during the closing operation. The straps shall be spaced 24 inches along the closure, except on curves where they shall be spaced 18 inches apart. In the area of sharp radius curves there shall be a set of straps at each end of the radius.

3.3.5 Reinforcements. The flexible barrier enclosure shall be reinforced with a second ply of material at all sharp corners or angles.

3.3.6 Drainage. Each flexible barrier enclosure shall have provision for draining water from any low points.

3.3.7 Installation and removal. Provision shall be made in the design of each flexible barrier enclosure for rapid installation and removal. Provision shall also be made for easy access to the enclosed shelter/power unit. Multiple opening and closing of the flexible barrier for shelter/power

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unit access and multiple removal and installation of the flexible barrier cover shall not have any detrimental effects on the integrity of closure seals and the utility of the enclosure.

3.3.8 Identification and marking. Each flexible barrier enclosure shall be marked as follows in durable letters in a color contrasting with the color of the flexible barrier enclosure. The markings shall be legible and waterproof.

3.3.8.1 Match-marking. Each flexible barrier shall be match-marked, as required, to assure correct installation.

3.3.8.2 Identification markings. Identification markings on each flexible barrier enclosure shall be as stipulated in the contract or order (see 6.2).

3.3.8.3 Functional markings. The following functional markings shall be provided on each flexible barrier enclosure:

a. Adjacent to dehumidification equipment inlet and outlet parts, in one-inch lettering:

DH EQUIPMENT PORT

b. Adjacent to drains, in one-inch lettering:

DRAIN

c. Adjacent to repair kit, in one-inch lettering:

REPAIR KIT

d. Adjacent to installation instructions, in one-inch lettering: INSTALLATION INSTRUCTIONS.

e. Adjacent to closure tool, as applicable, in one-inch lettering: CLOSURE TOOL.

3.3.9 Workmanship.

3.3.9.1 Quality of construction. Workmanship shall be of a quality consistent with the highest production standards and practices. All metallic surfaces shall be free from burrs and sharp edges. All material shall be sound, of uniform quality and condition, and free of defects that may adversely affect the strength, endurance, or wear resistance of the part. The flexible barrier material shall be clean, finished, and free from dirt, oil, foreign matter, rough or sharp edges, tears, cuts, holes, and cracks. Joints in the flexible barrier shall be uniform and free from wrinkles, bubbles, areas of non-adhesion and other imperfections.

3.3.10 Safety. In order to provide safety controls for protection of the life and health of employees and other persons and for prevention of damage to property, materials, supplies, and equipment, all items to be furnished shall comply with the latest applicable edition of the following safety standard: Occupational Safety and Health Act of 1970 (PL 91-596).

3.4 Major component characteristics.

3.4.1 Flexible barrier cover. The flexible barrier cover shall be fabricated from a flexible, moderately water-vaporproof barrier material

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conforming to the requirements specified in Table I, when tested as specified in 4.2.4.

3.4.1.1 Bonding. The flexible barrier cover shall be capable of being bonded for repair or sealing by a commercially available heat sealer, a radio frequency (RF) sealing device, or a liquid adhesive contained in the patching kit (see 3.4.4.2).

3.4.1.2 Closure. When the design of the flexible barrier enclosure requires use of a manually-operated closure for the rapid installation/removal and sealing of the flexible barrier enclosure, the closure shall conform to the requirements specified in Table II, when tested in accordance with 4.2.5. The closure, when tested in accordance with 4.2.5.7, shall be capable of bonding to the flexible barrier material by a commercially available heat sealer, a radio frequency (RF) sealing device, and by the liquid adhesive contained in the patching kit (see 3.4.4.2). The closure shall have a service temperature range of  $-40^{\circ}$  F. to  $+140^{\circ}$  F. and an operating range of  $-10^{\circ}$  F. to  $+140^{\circ}$  F.

3.4.2 Electronic humidity sensing equipment. The electronic humidity sensing equipment shall consist of a removable, portable, battery operated humidity measuring meter and two (2) humidity sensing elements permanently mounted inside the flexible barrier enclosure. One humidity sensing element shall be located on the top of the enclosed shelter/power unit, and one shall be located to monitor the relative humidity (RH) inside the shelter/power unit. The quantity of humidity measuring meters shall be as specified in the contract or order (see 6.2).

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TABLE I  
PHYSICAL PROPERTIES OF FLEXIBLE BARRIER

<u>Properties</u>	<u>Requirements</u>	<u>Test Paragraph</u>
Water Vapor Transmission Rate, Grams/100 square inches/ 24 hours	0.10 Max	4.2.4.1
Tensile (breaking) strength and elongation		
Laminated film without scrim reinforcement, each direction:		
Tensile strength, psi	1800 Min.	4.2.4.2.1
Elongation, %	100 Min.	4.2.4.2.1
Laminated film with scrim reinforcement, warp and filling:		
Breaking strength, lb./in	200 Min.	4.2.4.2.2
Elastic material, each direction:		
Tensile strength, psi	1200 Min.	4.2.4.2.3
Elongation, %	300 Min.	4.2.4.2.3
Puncture resistance	No puncture entirely through the material	4.2.4.3
Resistance to blocking	No blocking, delamination, or rupture	4.2.4.4
Bond strength	The breaking	4.2.4.5
RF bonds	strength of any	
Heat seal bonds	bond shall be not	
Adhesive bonds	less than 80% of the original tensile strength of the material	
Tear Resistance		
Laminated film without scrim reinforcement, each direction, lbs.	9.0 Min.	4.2.4.6.1
Laminated film with scrim reinforcement, warp and filling, lbs.	30.0 Min.	4.2.4.6.2

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<u>Properties</u>	<u>Requirements</u>	<u>Test Paragraph</u>
Elastic material, each direction lbs./in.	220 Min.	4.2.4.6.3
Resistance to low temperature stiffening	-40° F. or colder	4.2.4.7
Resistance to light	No embrittlement, cracking, or delamination	4.2.4.8
Resistance to aging	No delamination, seam separation, or cracking	4.2.4.9

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TABLE II  
PHYSICAL PROPERTIES OF CLOSURE

<u>Properties</u>	<u>Requirements</u>	<u>Test Paragraph</u>
Water Vapor Transmission Rate; Grams/linear foot/24 hours	0.08 Max.	4.2.5.1
Tensile Strength, psi Each direction	6000 Min.	4.2.5.2
Flexibility As received After cold temperature conditioning	Easily hand- folded, flexed, twisted, and bent	4.2.5.3
Resistance to blocking	No blocking, delamination, or rupture	4.2.5.4
Operation As received After cold temperature conditioning	No binding, jamming, mis- alignment, or other malfunction	4.2.5.5
Resistance to parting force As received After high temperature conditioning	80 lbs/inch 80 lbs/inch	4.2.5.6
Bond strength RF bonds Heat seal bonds Adhesive bonds	The breaking strength of any bond shall be not less than 80% of the original tensile strength of the flexible barrier	4.2.5.7
Resistance to aging	No separation or cracking	4.2.5.8



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3.4.3 Base enclosure. The base enclosure shall consist of two (2) plies of the same flexible barrier material used to fabricate the flexible barrier cover (see 3.4.1). The base enclosure shall be joined to the flexible barrier cover by a manually-operated closure or sealing rim for rapid installation/removal and sealing.

3.4.4 Ancillary equipment. The following ancillary equipment shall accompany the flexible barrier cover.

3.4.4.1 Closure tool. When the design of the flexible barrier enclosure requires use of a special closure tool, each enclosure shall be accompanied by the closure tool contained in pocket which is an integral part of the flexible barrier cover. The closure tool shall be designed to operate smoothly without forcing or binding.

3.4.4.2 Patching kit. Each flexible barrier enclosure shall be accompanied by a patching kit consisting of a sheet of the identical material, taken from the same production, made in the same process and of the same color, as the enclosures offered for acceptance. The sheet shall measure not less than twelve (12) inches wide and ten (10) feet long. This patching material shall be provided with adhesive and a set of instructions for patching. The adhesive shall be compatible with the material used for the barrier enclosure. The kits shall be housed in a pocket which is an integral part of the flexible barrier cover. Installed patches shall have the bond strength indicated in Table I when tested in accordance with 4.2.4.5.

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3.5 Installation instructions. Each flexible barrier enclosure shall be accompanied by one set of durable instructions placed in a record pocket, made an integral part of the flexible barrier cover. Instructions shall include a step-by-step procedure for closing, opening, installing, and removing the enclosure from the equipment.

3.6 Water resistance of marking. Match-marking and functional and identification markings shall be clear and legible after testing as specified in 4.2.7.

### 4. QUALITY ASSURANCE PROVISIONS.

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all testing to insure adherence to all requirements of this purchase description. The contractor may utilize his own or any other inspection facilities and services acceptable to the Government. Inspection records of examination and tests shall be kept complete and available to the Government. The Government reserves the right to perform any of the tests and inspections set forth in this purchase description where such tests and inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Quality conformance inspection. Quality conformance inspection shall be the responsibility of the contractor unless otherwise specified in the contract. The contractor shall furnish all samples. The contractor shall furnish a test report in accordance with MIL-STD-831, including a certificate

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of compliance showing quantitative results for all quality conformance tests required by this purchase description for each lot of flexible barrier enclosures. Any function specified herein for accomplishment by the Government shall be interpreted to mean function to be accomplished either by or under the supervision of the Government.

4.2.1 Lot. All flexible barrier enclosures produced by one manufacturer and by the same manufacturing process from the same material and components for delivery at one time shall be considered a lot for purposes of inspection and test.

4.2.2 Inspection of components and materials. In accordance with 4.1, the contractor shall be responsible for ensuring that the materials and components used were manufactured, tested, and inspected in accordance with the requirements of referenced specifications and standards to the extent specified, or, if none, in accordance with this purchase description. In the event of conflict, this purchase description shall govern.

4.2.2.1 Sample sizes and inspection levels. Sample sizes for performing the tests specified in 4.2.4 and 4.2.5 shall be as specified in the contract or order (see 6.2). Inspection for defects listed in Table III shall be performed in accordance with MIL-STD-105. The inspection levels for determining the sample size and the acceptable quality levels (AQL's) for the defects listed in Table III shall be as specified in the contract or order (see 6.2).

4.2.3 Test conditions. In general the physical tests contained in this purchase description shall be performed under the controlled atmosphere

conditions stated below. Waiver of this requirement may be permitted where proper conditioning facilities are not available for control testing. However, for reference purposes, the specified tests shall be made upon the material in the specified atmospheric condition. For the purposes of this purchase description, material in specified atmospheric condition is defined as material which is in moisture equilibrium with an atmosphere having a relative humidity of  $50 \pm 5$  percent and a temperature ranging from 70 to 76° F. Material shall be considered in equilibrium after exposure to the above conditions for a minimum of 24 hours.

4.2.4 Flexible barrier material tests. Physical tests shall be performed for the applicable characteristics specified in Table I for each lot presented for acceptance.

4.2.4.1 Water Vapor Transmission Rate (WVTR). The WVTR shall be determined in accordance with Federal Test Method Standard 101, Method 3030, Procedure A, in an environment of  $100^{\circ} \pm 2^{\circ}$  F.,  $90 \pm 2$  percent relative humidity.

4.2.4.2 Tensile (breaking) strength and elongation. The test method for determining the tensile strength and elongation shall be based on the type and construction of the flexible barrier material. The tests shall be conducted on samples of material in the "as received" condition.

4.2.4.2.1 Laminated film without scrim reinforcement. The tensile strength and maximum elongation of the material for each direction shall be determined in accordance with ASTM Test Method D412.

4.2.4.2.2 Laminated film with scrim reinforcement. The grab breaking strength of the material shall be determined in

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accordance with Federal Test Method Standard 191, Method 5100. Both warp and filling tests shall be conducted on the material.

4.2.4.2.3 Elastic material. The tensile strength and maximum elongation of elastic material, such as butyl rubber, for each direction shall be determined in accordance with ASTM Test Method D412.

4.2.4.3 Puncture Resistance. The puncture resistance of the material shall be determined in accordance with Federal Test Method Standard 101, Method 2025, Procedure A. The sample load shall be 60 pounds, 30 pounds at each end of the rod, in lieu of the requirements of Method 2025.

4.2.4.4 Resistance to blocking. The blocking resistance of the material shall be determined in accordance with Federal Test Method Standard 101, Method 3003, Procedure D.

4.2.4.5 Bond strength. The bond strength of the material shall be tested in accordance with ASTM Test Method D412. The test specimen shall consist of two one-inch straps bonded with a one-inch overlap. This test shall be run separately, not earlier than 24 hours after bonding, on specimens bonded by the radio frequency (RF) method, the heat seal method, or the abrasive method. The contractor shall furnish the required adhesive for the adhesive method. This adhesive shall be a sample of the adhesive contained in the patching kit (3.4.4.2).

4.2.4.6 Tear Resistance. The test method for determining the tear resistance shall be based on the type and construction of the flexible barrier material. The tests shall be conducted on samples of material in the "as received" condition.

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### 4.2.4.6.1 Laminated film without scrim

reinforcement. The tear resistance of the material for each direction shall be determined in accordance with ASTM Test Method D1004.

### 4.2.4.6.2 Laminated film with scrim

reinforcement. The tear resistance of the material shall be determined in accordance with Federal Test Method Standard 191, Method 5134. Both warp and filling tests shall be conducted on the material.

### 4.2.4.6.3 Elastic material. The tear resistance

of elastic material, such as butyl rubber, for each direction shall be determined in accordance with ASTM Test Method D624.

### 4.2.4.7 Resistance to low temperature stiffening. The

ability of the material to resist stiffening at the specified temperature in Table I shall be determined in accordance with Federal Test Method Standard 101, Method 2049.

### 4.2.4.8 Resistance to light. The resistance to light

shall be determined in accordance with MIL-STD-810, Method 505.1, Procedure I.

### 4.2.4.9 Resistance to Aging. The resistance to aging

shall be determined in accordance with Federal Test Method Standard 191, Method 5852.

### 4.2.5 Closure tests. When the design of the flexible barrier

enclosure requires use of a manually-operated closure for rapid installation/removal and sealing of the flexible barrier enclosure, physical tests shall be performed for the applicable characteristics specified in Table II for each lot

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presented for acceptance. Unless otherwise indicated, the sample unit shall be a six-foot sample of the closure, bonded to an eight-inch piece of flexible barrier material, part of the same material used in production of the lot of flexible barrier enclosures offered for acceptance.

4.2.5.1 Water Vapor Transmission Rate (WVTR). The WVTR shall be determined in the "as received" condition in accordance with Federal Test Method Standard 101, Method 3030, Procedure B. The pouch shall be formed from an eight-inch piece, sealed on three sides in such a manner that the inside dimensions of the pouch are  $5 \frac{5}{16} \pm \frac{1}{16}$  inches wide by  $6 \pm \frac{1}{8}$  inches deep. The six-inch dimension shall be measured from the locking part of the closure.

4.2.5.2 Tensile strength. The tensile strength test shall be performed on a strip of the webbing taken from the closure. The tensile strength shall be determined in accordance with ASTM Test Method D412.

4.2.5.3 Flexibility. A twelve-inch section of the closure sample described in 4.2.5 shall be manually manipulated, after conditioning for 24 hours at minus 20° F. This test shall be conducted in conjunction with the operating test of 4.2.5.5.

4.2.5.4 Resistance to blocking. The blocking resistance of the closure material shall be determined in accordance with Federal Test Method Standard 101, Method 3003, Procedure A. The test sample shall be a square section of the closure webbing as large as the size of the webbing

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shall permit, not to exceed 1.5 inches.

4.2.5.5 Operation. The six-foot sample described in 4.2.5 shall be manually operated 20 times. An operation shall consist of one complete opening followed by one complete closing. The closure shall be flexed so as to develop at least four curves along its length with an approximate radius of 12 inches and an arc of 90 degrees. The test shall be run in conjunction with the flexibility test (4.2.5.3), once after each conditioning period. The closure tool specified in 3.4.4.1 shall be used in this test. The performance of the closure tool shall be evaluated separately.

4.2.5.6 Resistance to parting force. The ability of the closure to resist separation shall be determined in accordance with Federal Test Method Standard 406, Method 1013. The specimen shall be conditioned beforehand for 24 hours at 140° F.

4.2.5.7 Bond strength. The bonding strength of the closure with the cover material shall be tested in accordance with Federal Test Method Standard 406, Method 1013, Procedure A or B, as applicable. The test sample shall consist of three 12-inch pieces of the closure sample (4.2.5) except that the bonding agent shall be the radio frequency (RF) method, the heat seal method and the adhesive method, respectively. The adhesive used shall be a sample of the adhesive contained in the patching kit (3.4.4.2). The bond strength test shall be run separately on specimens bonded by the RF method, the heat seal method, and the adhesive method.



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4.2.5.8 Resistance to aging. The resistance to aging shall be determined in accordance with Federal Test Method Standard 191, Method 5852.

4.2.6 Fit and function test. A fit and function test shall be carried out on actual shelters/power units in accordance with specific instructions in the contract (see 6.2).

4.2.7 Water-resistance of marking test. Three samples of flexible barrier enclosures, each with an example of functional or identification markings thereon, shall be completely immersed in water at room temperature for a period of 2 hours. The samples shall then be removed and the excess water removed from the specimens by blotting with absorbent towels.

4.2.8 Patching kit test. Using the patching instructions and the material in the patching kit (3.4.4.2), two 12-inch tears shall be patched and tested in accordance with 4.2.4.5. The tears shall be made in sample material taken from the same production, made in the same process, as the flexible barrier enclosures offered for acceptance.

4.3 Acceptance. Each flexible barrier enclosure offered for acceptance shall be inspected in accordance with Table III. The closure operating test shall consist of one complete opening and one complete closing performed once over the full length of the closure. The operating test shall be performed with the closure tool specified in 3.4.4.1, as applicable. The flexible barrier enclosures shall demonstrate complete compliance with Section 3 of this purchase description. Acceptance shall be based on satisfactory passing all tests

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TABLE III

DEFECTS

Workmanship: Not uniformly made; dirt, oil, foreign matter present, rough or sharp edges, tears, cuts, holes, or cracks.

Construction: Not in conformance with specified design and construction requirements, such as size, fit, drains, closure, and reinforcements.

Joints: Not uniform; wrinkles, bubbles, areas of non-adhesion, or other imperfections.

Patching kit: Omitted; not as specified; adhesive omitted; instructions omitted.

Closure: Not operable as specified.

Pouches: Not provided for patching kit, closure tool, or installation instructions; not constructed as specified.

Closure tool, when applicable: Omitted; not constructed as specified.

Installation instructions: Omitted; incomplete.

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Match-marking: Not as specified; not clear and legible; incorrectly located; omitted.

Functional markings: Not as specified; not clear and legible; incorrectly located; omitted.

Identification markings: Not as specified; not clear and legible; incorrectly located; omitted.

Packaging and packing not as specified, containers not in accordance with applicable specifications.

Marking for shipment: Not as specified.

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specified in this purchase description and meeting all other requirements as specified in the contract. The actual act of acceptance is reserved to the authorized Government representative. Final acceptance by the Government will be at the destination for delivery.

NOTE I: Warranty. The contractor agrees that the supplies or service furnished under this contract shall be covered by the most favorable commercial warranties that contractors give to any customer for such supplies or services and that the rights and remedies provided therein and in addition to do not limit any rights afforded to the Government by any other clause of this contract.

NOTE II: Bidder shall submit complete descriptive and dimensional data as necessary to clearly depict and indicate the capabilities of the product. To assure that sufficient information is available, the bidder shall furnish as a part of his bid descriptive material such as illustrations, drawings, brochures, or other information necessary to determine whether the product offered meets the requirements of this Invitation for Bid. If the bidder proposes to modify an existing product so as to make it conform to the requirements of this Invitation for Bid he shall include in his bid a clear description of such proposed modifications and clearly identify any descriptive data to show the proposed modifications.

NOTE III: Failure to furnish the information shown in Note II will be cause for rejection of bid.

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5. PREPARATION FOR DELIVERY.

5.1 Preservation. Preservation shall be level A, B, or commercial packaging as specified in the contract or order (see 6.2).

5.1.1 Level A. Each flexible barrier enclosure, including humidity sensing equipment, not exceeding 100 pounds, after inserting the closure tool, patching kit, and installation instructions in their respective pockets, shall be packaged in snug-fitting fiberboard boxes conforming to V2s, or better, of PPP-B-636. Flexible barrier enclosures exceeding 100 pounds shall be packaged in fiberboard boxes conforming to PPP-B-640, Class 2.

5.1.2 Level B. Each flexible barrier enclosure including humidity sensing equipment, after inserting the closure, patching kit, and installation instructions in the respective pockets shall be packaged in snug-fitting fiberboard boxes conforming to Class Domestic of PPP-B-636.

5.1.3 Commercial packaging. Commercial packaging shall be in accordance with MIL-STD-1188.

5.2 Packing. Packing shall be level A, B, or commercial packaging as specified in the contract or order (see 6.2).

5.2.1 Level A. Each flexible barrier enclosure shall be packed in snug-fitting wood-cleated boxes conforming to PPP-B-601, Grade A.

5.2.2 Level B. Flexible barrier enclosures packaged level A or B shall require no packing.

5.2.3 Commercial packaging. Packing shall be in accordance with MIL-STD-1188.

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### 5.3 Marking.

5.3.1 Levels A and B. Interior packages and exterior containers shall be marked in accordance with MIL-STD-129.

5.3.2 Commercial packaging. Marking shall be in accordance with MIL-STD-1188.

### 6. NOTES.

6.1 Intended use. The flexible barrier enclosures fabricated in accordance with this purchase description are tailored to the configuration of specified shelters/power units. The concept is an individual environmental enclosure which allows the shelters/power units to be wholly protected in an easily installed and removable, dependable envelope yet readied for service without involved depreservation.

- 6.2 Ordering date. The contract or order should specify the following:
- a. Title, number, and date of this purchase description.
  - b. Government-furnished property (3.1.2).
  - c. Access to Army Medical Materiel shelters/power units (3.3.1).
  - d. Type of item (expandable shelter, multipurpose shelter, power unit) for which the flexible barrier enclosure is intended (3.2.2.1) and the quantity of each.
  - e. Quantity and size of the inlet and outlet ports for attachment of periferal dehumidification equipment (3.3.3.1).
  - f. Required identification markings (3.3.8.2).

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- g. Quantity of humidity measuring meters (3.4.2).
- h. If other than the contractor has responsibility for inspection (4.1).
- i. Sample sizes for determining the physical properties of the flexible barrier and closure (4.2.2.1).
- j. Inspection levels for defects (4.2.2.1).
- k. Instructions for fit and function test (4.2.6).
- l. Level of preservation (5.1).
- m. Level of packing (5.2).